SPEARS IN CONTEXT: TYPOLOGY, LIFE-CYCLES AND SOCIAL MEANINGS IN BRONZE AGE ITALY

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ABSTRACT  

This research explores the phenomenon of Bronze Age spearheads between the Middle and Final Bronze Age (18th century-9th century B.C.) in Italy. It will explore how these objects change over time and analyse patterns of distribution as well as changes in depositional context. The thesis consists of a catalogue of examples from the Italian Peninsula which are analysed in two ways: first, a typological sequence has been constructed, in order to identify differences in form, appearance and dimension, in order to analyze chronological and regional variation. Second, edge-wear analysis is conducted on a sample of objects in order to gain an appreciation of how this method can inform the archaeological interpretation of artefact biographies. The premise of such a study is rooted in a theoretical framework which argues that objects embody fundamental aspects of people’s social lives. As weapons for both hunting and warfare, spears embody rich symbolism which was drawn upon by Bronze Age communities, in many different ways. The biographical approach reveals close connections between these objects and the lives of individuals, the places they lived in as well locales which were of ritual importance to them. The edge-wear analysis also suggests that these objects were conceptualized as having lives which were ritually ended through deliberate damage, in addition to natural wear, damage and repair. These studies are situated within broader traditions of northern European archaeological evidence.  
The thesis concludes by arguing this biographical approach considerably enriches more traditional typological approaches to material culture. When used in combination with the study of the context of deposition, it suggests Mediterranean scholarship on prehistoric metallurgy can benefit greatly from these conjoined methodologies.  

Keywords: Italian spearheads, Bronze Age, role of materials, edge-wear study.
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GLOSSARY OF FOREIGN WORDS

*Clientes* = in ancient Rome, defined as people attached to a patron
*Corpus* = the term indicates a group or a body of objects gathered together
*Facies* = in Italian archaeology the terms means a class of artefacts (i.e. bowls, axes, swords etc.) with specified characteristic.
*Fetiales* = a college of Roman priests who performed the appropriate ceremonies and rituals at the commencement or cessation of war.
*Fibula* = broach
*Gewässerfunde* = watery find
*Hasta* = latin word meaning spear. These spears were carried by Roman Legionaries.
*Ibid. (ibidem)* = it represents a source that was cited preceding reference.
*In fieri* = to come into existence.
*Koine* = from ancient Greek, it means common. In archaeology the term is generally associated with the word “metallurgical”, indicating a widespread of similar types of objects across distant areas. It refers to a flourishing interchange of ideas and artifacts. Besides finished objects, new ideas circulated in terms of transmission of knowledge and know-how, inspiring imitation and creative developments.
*Lectio facilior* = easy reading.
*Locus* = place.
*Numina* = a spiritual force or influence perceptible by mind but not by sense. It is often identified with a natural object, phenomenon, or place.
*Par excellence* = by pre-eminence.
*Per se* = by, of, for, or in itself.
*Sauroter* = butt spike.
*Situla* = bucket or pail.
*Strictu sensu* = in the strict sense.
*Terramara* = Middle-Recent Bronze Age ditched and banked villages, with a platform sustained by a network of poles. They are prevalently located in the Po plain (north Italy).
*Vice versa* = literal translation from the Latin: “the other way round”; the reverse of the previous statement.
PREFACE

The Italian Middle Bronze Age (1700-1350 BC) marks the appearance of a specialised set of offensive weapons, namely spearheads and swords; they have usually been regarded as a central innovation within an evolutionary process of war tactics. At the time of my degree thesis, I started the research gathering published spearheads in order to produce a comprehensive corpus of all continental Italian spearheads. In doing so I was primarily inspired by a number of already existing works, which deal with different classes of objects: the Prähistorische Bronzefunde and Universitätsforschungen zur prähistorischen Archäologie volumes. This previous investigation culminated in a typological study with evolutionary tables and distribution maps, which showed different types of spearheads in different regions, according to a chronological sequence (Bruno 2007). At that time, I thought that the creation of a corpus of spearheads could have greatly contributed to the study of prehistoric war. In addition, it would have fulfilled a gap owing to the lack of a comprehensive work concerning this class of objects. In fact, although swords have always been central in exploring changes in modes of warfare across different phases of the Bronze Age, spearheads have never found a key role in the Italian literature. Although it was not within the scope of my previous research, I was aware that the fluctuation of spearheads in different depositional contexts might help archaeologists understand how objects were actively used to create, maintain and reproduce relationships. I was also conscious that a study only focused on the classification of spearheads was not exhaustive, in examining the role of such objects within past communities: new methodologies were needed.

Within this study, I will merge my previous typological approach with new theoretical frameworks, which stress the role of metalwork as an important medium for cultural communication and address its symbolic, social and economic significance for local communities. The acknowledgment that typologies alone are not sufficient when taken to their logical extreme, led me to expand my research background to different theoretical approaches, which seek to identify personal life-histories for individual artefacts. Yet the study of Italian prehistoric metalwork is predominantly based on typological classifications. Previous scholars have only categorised objects at the final stage, when they entered the archaeological record, regardless of the fact that they have been owned by different individuals, and may have multiple histories of ownership, use, care and meaning. At the same time, typologies represent an important tool as they allow us to understand spatial distributions of morphological traits and styles across chronological
phases. My approach marries a more traditional typological analysis with an object biography approach. It identifies cultural traits, set within broader Mediterranean and northern European traditions, but also acknowledges the individual histories of specific artefacts. Such an approach recognises that the life-cycle of objects, alike that of individuals, is regulated by time, which in this case represents an internal parameter (Gell 1992; Ingold 1993, 2000; Thomas 1996; Bradley 2002). In this perspective, the different meanings which some objects take on during their life-paths relate to the specific relations they are caught up in, the events with which they are associated or the identity of those who make, wield or deposit them. A surface examination of these histories of use and wear can help reveal such connections, and the examination of their deposition enables us to explore some of their broader symbolic meanings.

I have therefore used different scales and types of visual analysis alongside the contextual study of depositional patterns to explore these issues. Whilst challenging, the study reveals the strong potential of a marriage between traditional and novel approaches to prehistoric metallurgy, to shed light on important aspects of meaning and symbolism.
CHAPTER 1. INTRODUCTION

This chapter will provide an overview of the historical developments of Italian prehistoric archaeology, relating to the typological school of the mid-late 20th century. I will then show how such typologies have been used to generate models of Bronze Age society, based heavily on the phenomenon of metalwork, discussing the anthropological models on which these are based. I will also allude to studies of settlement and burial archaeology, to further explain how models of social complexity were refined. Throughout, I will be considering the central role of metallurgy in these debates.

1.1 “CULTURAL FACIES”: RENATO PERONI AND THE ITALIAN TYPOLOGICAL SCHOOL

The main avenues of research in the study of metalwork circulation and deposition in Italy are rooted in a Marxist tradition, whose fundamental theoretical perspectives were revised by the philosopher Antonio Gramsci. With the belief that history is defined by human praxis, he assumed that both economic and cultural changes were expressions of historical processes. Gramsci’s post-Second World War “historicism” influenced the archaeological discourse and different branches developed from his theories. Recently, Peroni (1996: 4), commenting on Bronze and Iron age communities in Italy wrote that "…il filo conduttore essenziale della protostoria italiana…vada ricercato nello sviluppo delle forme di organizzazione sociale" (the essential leitmotif of the Italian proto-history…might be sought in the development of social organizations).

Renato Peroni’s work was influenced by the German school which claimed that cultural differences – observable in prehistoric remains – were rooted in ethnicity (Jones 1997: 15). Rather than use the term ‘culture group’ (as became common in Britain, through the work of Childe), Peroni used the concept of the ‘cultural facies’ to describe the basic unit of variation (1959). The main idea behind his work was that all the artefacts, thus not only the objects with aestethetical value, but also those of mundane use, bore traces of past cultural identity. Together with Herman Muller Karpe, they were pioneers in developing a method of analysis based on typologies, mathematical formulations and quantitative evaluations (seriation) in order to give a new rigour to the reconstruction of an historical framework (D’Agostino 1991). Peroni’s key concept and method is explicitly spelled out in a study about the Sub-Apennine phase (Per una definizione dell’aspetto culturale subappenninico come fase cronologica a sé stante, 1959). In the authors’ view,
changes in material culture were diagnostic for the identification of different “cultural facies”. As a consequence, the chronological arrangement of styles and morphological characteristic of objects would have given a contribution to the understanding of long-term histories of culture groups.

The novel contributions brought by the New Archaeology in the early sixties were looked upon with scepticism by this dominant culture school, in the Italian proto-historic debate. By and large, this paradigm shift was ignored, yet certain processual methodologies such as quantitative analysis and mathematic formulations were utilised in order to create a rigorous and verifiable methodology (Hodder 1991: 9-12). The end of the sixties and the beginning of the seventies marked an important revolution in the Italian archaeology. A cultural association, “Dialoghi di Archeologia”, clearly inspired by Marxist theories, was founded by the ancient art historian Ranuccio Bianchi Bandinelli and subsequently joined by young scholars, who mainly had a background in Classical studies (Carandini, Torelli and Coarelli). Among them, the only prehistorian was Renato Peroni, who "provided the first real explanation, in Marxist terms, of Italian proto-history" (Peroni 1969 cited in Guidi 2010: 18).

At the same time, another branch of the Italian palaeoethnology was influenced by cultural anthropology. Focus was put on collective behaviours and social changes which were not explained as the succession of events; rather the main aim of these approaches was to promote the individual as principal agent in manipulating these processes (Cazzella 1989: 5). Accordingly, the relations with the Anglo-Saxon theoretical debate has always been a dialectical one (D’Agostino 1991). Fundamental and pioneering among cultural-historical studies is the work of Anna Maria Bietti Sestieri (1976-77).

Peroni’s role was key, becoming tenured professor of "Prehistory and Proto-history in Europe" at the University "La Sapienza" at Rome. Yet the Italian scholars of proto-history have always maintained a strong socio-economic approach which continues to distinguish these studies up to now. These have strongly informed understandings of the role of metalwork as a key resource in maintaining power, through the control of production, circulation (trade and exchange) or consumption.

1.2. MODELS OF SOCIETIES IN ANTHROPOLOGY

In order to understand how objects become meaningful within past communities which made use of them, it is important to understand what kind of society we are looking at. Social structure has often been interpreted by ‘reading’ burials or settlements quite
literally, in order to interpret aspects of hierarchy or power. Wealthy burials or complex settlements are taken to indicate complex forms of social organisation. In addition, control of trade and exchange has also been used to infer aspects of stratified societies, manipulating prestige goods to further the renown and power of its leaders. However, ideology is the necessary means by which people maintain and manipulate these relationships. I will start by exploring the main theories about the process behind the origins and the evolution of complex stateless societies. Accordingly, different models will be illustrated in order to create a link between them and the application of categories of complexity to the study of Bronze Age societies in Italy.

At the threshold of the sixties the development of social typologies in the study of social ranking was one of the main field of research pursued by evolutionary anthropology. The most influential classifications were elaborated by Elman Service and Morton Fried. Service (1962) defined a model based upon stages of social evolution: band, tribe, chiefdom and state. In the author's view the main factor in the progression towards state societies was a political one and it refers to the legitimation of the role of the chief. Contrarily, Fried (1960) mainly identifies economic drives behind the passage between egalitarian societies, ranked societies, social stratifications and ultimately the state. As recently stated by Gnesotto (2006: 744), the two models although similar, differ over the fact that they are based on different ground factors, respectively "consensus" (Service) and "conflict" (Fried).

Rooted in these models, further theories have been developed in the following years by other anthropologists in order to identify the prime causes for culture change. For example, Terence D’Altroy together with the materialist archaeologist Timothy Earle (1985) analyzed the Inca state finance system. They proposed it demonstrated evidence of cultural evolution, with the generation of surplus enabling relations of production, dynamics of control, developments of new forms of finance and political strategies (ibid. 1985: 187). The authors argued that the monopolizing control of an inter-regional prestigious exchange system, provided the foundation of a finance system based on wealthy goods rather than staples. It thus favoured relations amongst elites (ibid. 1985: 196). Opposed to this is the staple finance system, which involves the payment of tribute in form of subsistence goods. The authors propose this latter system actually provided economic security for the Inca state at an intra-regional scale, facilitated through the system of redistribution. The simplest form of such redistribution (which nonetheless confers prestige on the donor) is feasting (Earle 1991: 3).

In later works Earle applied this model to explain the internal dynamics of the Early
Bronze Age society of Thy (1991). Intertwining components, such as economic control of basic resources and the redistribution of prestige items (in order to sustain the relationship of dependence between chiefs and warriors) were key factors in the creation of a wealth finance system. Yet, ideology is the means by which people can balance social relations of power (Earle 2002).

In contrast, towards the end of the eighties, Johnson and Earle (1987) identified the demographic variable as a prime cause for culture change. In this perspective, population growth would have increased competition over limited resources among egalitarian groups, leading to the formation of inequalities and stratified societies.

1.3. MODELS OF SOCIETIES IN PREHISTORY: A EUROPEAN PERSPECTIVE

I have shown so far how different models of society developed from the second half of the twentieth century onwards. In the following section I shall explore how the social evolutionism has been applied to the study of past societies.

One of the first applications of social evolutionism in prehistory can be seen in the work of Vere Gordon Childe (1930). He applied the concept of diffusionism to explain culture change, in which small scale movements of key people or ideas created the stimulus for change. Crucial for the developments of ranked communities in Europe was the diffusion of new ideas from the city-states in Near East. The author believed that focal role in the transmission of knowledge and know-how was played by itinerant smiths. These skilled craftworkers helped create a body of surplus prestigious objects: materials that were considered vital in the stimulation of evolutionary development for society.

The social stages first recognised in anthropology were transferred in archaeology by Colin Renfrew (1973). In the author's view the major risk of the application of social typologies in prehistory was the rigid classification of different situations within the same group. In fact, in his attempt to apply the concept of chieftdom to past societies, he identified a form of society more oriented on collective organizations. At the same time, he moved away from the idea that external driving forces were more influential than autonomous developments, in the process toward stratified societies. Later studies, focused in independent evolution, were devoted to the control of modes of production, and the book edited by Renfrew and Shennan in 1982 is a good case in point.

Interestingly, Hodder (1982a, 1982b) criticised this approach arguing that the explanations of archaeological data are not always exhaustive. Patterns of distributions can be also misleading as well as the practice of assessing status and wealth on the basis of cemetery
analysis (i.e. numbers or grave goods or size of grave as proxies for wealth or power). For instance, a sword in a grave must be not only regarded as a symbol of status; instead, it may have masked other identities or social dynamics, and its exclusive consumption by some denied to others the ability to draw upon such symbolism.

In the early seventies, in opposition to the band-to-state scheme, Binford developed his ecological determinism paradigm (1972), becoming a fervent exponent of the New Archaeology. In the author's view modes of production, social relations and ideology could all be seen as adaptive responses to environmental factors.

However, while the internal relations between individuals and society were not considered by Binford, they have been, instead, the principal issue of Marxist structuralists, particularly active toward the end of the twentieth century. The works of these scholars were mainly devoted to the reconstruction of the "history of the social" (Kristiansen and Rowlands 1988: 8), with the belief that social relations are embedded in material relations and that their origins are rooted in previous systems of social dynamics. Many attempts to redefine and adapt the social typologies of anthropology to archaeology followed each other. These studies explored how the processes of production and circulation influenced successive stages of social forms within a diachronic process and how a few people were able to achieve control over a majority (i.e. Friedman and Rowlands 1977; Rowlands 1987).

The main concept was that alliances allowed the elite to extend networks of relations of production, whilst claims to common ancestors legitimised the accumulation of wealth for particular lineages, within a tribal-based system. The wealth so gained was to the groups’ benefit and could have been converted into prestige through feasting. Increasing prestige and wealth promoted the emergence of conical structures. The status of the new chief relied on the consolidation of vertical relations of production and on the extension of exchange and alliance systems, thus in their ability to maintain control over a majority. Over time, as wealth and prestige were consolidated in such hands, they were no longer the expression of "collective" status, rather they materially and ideologically enhanced and sustained the position of chiefs. At this stage, the difference between a “Centre” (which controlled basic resources, the technological skills, modes of production and labour) and a “Periphery” (which relied upon these alliances) became more evident (Rowlands 1987). The system of alliances and marriage encouraged the development of new centres. The increasing competition arising from the co-existence of emerging elites, undermined the central control which ultimately collapsed. Bradley (1984, 1991) argued that labour force for controlling land ownership as well as exchange systems were all
sources of unstable power, which ultimately may have led to the collapse of the system.

In a later work relating to the band-to-state scheme, Kristiansen (1998) made a fundamental distinction between different forms of chiefdoms: an unstratified system relating to tribal systems (*sensu* Fried) and more orientated on collectivity (i.e. based on staple finance) and another one, within which chiefs accumulated wealth for themselves (i.e. based on wealth finance systems). Another interesting approach to the study of social complexity and power relationships is the structural-materialistic approaches of Larsson (1986) and Kristiansen (1978). The authors gave particular attention to the ideological aspects behind the system of relationship through the analysis of Bronze Age metalwork in Scandinavia.

In these approaches, the raw resources available to each group became key. Larsson argued that the circulation of raw material and ready-made artefacts from a centre rich in resources (Middle and Central Europe) towards a non-metalliferous periphery (Nordic regions) allowed the development of a prestige good exchange system. On the one hand, it is likely that the increasing prestige items in the periphery created a surplus ready to be consumed. However, in the areas where the supply of bronze was limited, there are weapons carved and depicted on the rock. The author (1986: 176) interpreted the evidence as different ways of institutionalizing and formalizing relations of dominance, centred around the same product; prestige metalwork. In another study, Kristiansen (1978) noted a key difference between prestige swords (with full metal hilts) but little evidence for extensive use, compared with swords with organic hilts, which had been more heavily used. He argued that the higher status weapons associated with prestigious individuals exerted their power through reputation, whilst more inferior weapons, in the hands of lower status individuals, may have had to be ‘tested’ more frequently, in competitions over authority.

In a more recent work, co-written by Kristiansen and Larsson (2005), these theories have been further investigated. Objects are imbued with social, political and ideological behaviour. As they passed from hand to hand, institutions were transmitted too and consequently re-contextualized in the new context. Although institutions are not visible archaeologically, the de-codification of the symbols encrypted within objects can help the analysis of this relation.
This section explores the impact of these ideas on scholarship in Italian prehistory. By the beginning of the seventies Renato Peroni first outlined (1969, 1978) and later formalized (1989) a development of social forms, drawing on the complex relationships between culture and economic systems of Bronze Age communities. In a recent publication, Gnesotto (2006: 745) summarised Peroni's scheme as follows:

- during the Neolithic the predominant form of society is the tribe (sensu Service), an egalitarian society (sensu Fried), economically independent, that relies upon kinship ties. Peroni defined it "comunità di villaggio";
- early differentiation between local lineages can be identified during the Copper Age;
- at the threshold of the Bronze Age (Bronzo Antico in the Italian chronology; around the II millennium BC), the differentiation among the lineages became more formalised: society gained a pyramidal structure, internally ranked on the basis of the differential access to economic resources;
- in the course of the Middle Bronze Age (ca. 18th- second half of the 14th century BC), the author suggested the emergence of a society more egalitarian than before, according to the evidence from the cremation cemeteries. In those communities, he argued, the affiliation to a group was more dependent on the fact that people co-inhabited the same territory, rather than being primarily based on kinship ties. He argued that this was represented in the position of cemeteries, used to signal land ownership, whilst also helping reproduce the particular relationships of emerging chiefs with their ancestors. This form of society (comunità tribali ad assetto territoriale after Peroni) is close to the Fried's stratified society;
- by the Late Bronze Age (Recent and Final Bronze Age in the Italian chronology: ca. second half of the 14th - first half of the 9th century BC), Peroni argued for the emergence of small nuclei, which relied upon the accumulation and circulation of luxury and exotic goods (wealth finance and the second type of Kristiansen's chiefdom). Peroni defined these forms of society as "comunità gentilizio-clienterali". This term refers to the hierarchical aggregation of nuclear families, namely gentes, (in Ancient Rome this is a consanguineal group sharing the same nomen and a common ancestor). He outlined how relationships of dependence among the consanguineal and the extra-consanguineal groups worked, in order to gain advantage from the other's support (clientes in ancient Rome, defined as people attached to a patron). This social
organization was conceived as the base for the later development towards pre-urban societies.

Although Peroni did not use the term "chieffdom" in his scheme, later works extensively applied it to the Bronze Age communities in Italy. Anna Maria Bietti Sestieri (1997) extended the concept of chieffdom to the early state, in which social differentiation was seen as permanent and based on classes, rather than on kinship ties. Contrary to the social evolutionary schemes proposed by Peroni, a recent contribution by Cazzella and Recchia (2006), warned us that the excessive schematism risks levelling out different situations. They expressed the need to identify more nuanced aspects within the existing models.

The study of prehistoric settlements, burials and exchange system in the earlier eighties were predominantly influenced by processualist theories, especially in the "Roman" and "Paduan" schools (Guidi 2010: 18), while the rest of Italy followed different approaches. These branches of research led to the creation of regional traditions, which can be resumed as follows (ibid. 18-19):

- the "Roman" school (although the differences between the historical and the anthropological approach, was influenced by Marxist theories);
- in north eastern Italy processualist studies focused on Middle Range Theory;
- in the south of Italy Bruno D'Agostino was an outstanding exponent of the post-processualism;
- fieldwork activity characterized the north Italy and Tuscany; meanwhile in southern Italy major attention was devoted to the organisation of local museums as well as to publications.

As we can see, some regions of scholars embraced theoretical perspectives whilst others focused more on the extension of practical knowledge about sites and finds. I shall now turn the attention on how the models of society mentioned so far have been applied to the study of settlements and cemeteries.

Fundamental in the fields of settlement archaeology is the work of the "Roman" school. Scholars were particularly devoted to examining cultural change in central Italy between the end of the Bronze Age and early Iron Age. This period coincides with the passage from proto-urban centres to early state society (Di Gennaro 1982, 1989; Di Gennarò and Guidi 2000; Iaia and Mandolesi 1993; Pacciarelli 1994, 2000; Guidi 2000; Attema et alii 2003; Alessandri 2009). The extensive surveys carried out mainly in Etruria and Latium revealed that at the end of the Bronze Age, the population concentrated in
bigger centres, and smaller sites became abandoned. It was only at the end of the Bronze Age that a supposed hierarchical system emerged, which relied on the appropriation of strategic locations by emergent sites, to which satellite-sites were subordinate. In such a system, the political and economic relationships among areas with complementary resources became of fundamental importance (Di Gennaro 1982). Recently, Schiappelli (2008) formalized a typology of morphological features in the Tiber area (Latium) in order to highlight the degree of strategical potentialities of each site in relation to the others.

For earlier periods of the Bronze Age, Cardarelli greatly contributed to the study of the Middle-Recent Bronze Age *terramare* system. In one of his later works, which combines previous researches and new contributions (2009: 33-58), the author evaluated the environmental potentialities of the sites. Concurrently, owing to a lack of stratigraphic data, a diachronical sequence of occupational or abandoning phases were identified according to chrono-typological information. Accordingly, the author developed a model of historical process, which consisted of a long-term change from polycentric polities which relied on kinship relations to forms of societies based on land ownership (see above *comunità tribali ad assetto territoriale* after Peroni). The shift towards a more stratified system was not peaceful and the destruction of Gaggio (Emilia Romagna), the new settlement asset, the increasing presence of prestige-goods circulating in particular exchange systems, would all hint at the development of new forms of control and maintenance of power.

A different approached was carried out by De Guio whose research was supported by GIS mapping technology. He applied the rank-size model to settlement patterns in order to define structured landscapes. This model permitted him to define “functional” zones between south-eastern Alps (Trentino) and the Po Plain (Veneto) (Pearce 2000; De Guio 1991). De Guio (1991) supposed the existence of a “landscape of power” in the *terramare* area during the Middle and Recent Bronze Age. Such a hierarchical system was further supported by the evidence of impressive craft production (amber, bronze, bone, glass and antler) in sites such as Fondo Paviani, Castello del Tartaro, Fabbrica dei Soci (Veneto). This new demographic and socio-cultural asset, which replaced the previous core-area in the Garda district (i.e. Peschiera - Veneto), operated as an active partner in a long trade-distance system between the transalpine area and the east-Mediterranean world. Opposed to this long-distance exchange system, the flow of semi-finished and finished products would have enhanced more inter-regional exchange systems. Shortly after, in the 11th century BC this polity was replaced by a new core-area based on a new-formed ecological
niche and centered on Frattesina (Veneto).

Studies of cemeteries were predominantly conducted in order to analyze to what extent the community of the dead might be a reflection of the social structure of the living, although this relationship is not always straightforward (i.e. Iaia 1999; Guidi 2006 and Di Gennaro, F., Guidi, A. 2000). In doing so, it is possible to highlight the principal lines of research which have characterized past works: the study of the spatial distribution of graves within the cemetery, the analysis of the association of grave-goods, the anthropological analysis associated with the study of grave-goods and the application of rank-size diagrams of the rarity index (Peroni and Vanzetti 2006).

According to the authors, the first approach attempts to spot possible patterns in the distribution of graves, which may reflect different social organizations. For example, parallel lines of graves in some areas of the Middle-Recent Bronze Age cemetery of Olmo di Nogara (Veneto) (see in particular Salzani 2005) may reflect distinctions on the basis of the sex of the deceased; on the other hand, groups of tombs, which represent family units, can be hypothesized for the Middle Bronze Age Hypogeum of Trinitapoli. In both the cases, the authors deemed that the evidence would have reflected tribal societies. Distinctions on the basis of sex and social status within consanguineal groups seems to be recognised in some Iron Age cemeteries (Santa Lucia di Tolmino – Slovenia; Osteria dell’Osa – Latium).

The second approach relates to the use of statistical-combinatorial analysis, which in Italy received large consensus, with the belief that the study of the grave-goods is key in understanding the expression of different social structures. Central in this sense is the volume “Le necropoli e usi funerari nell’età del Ferro”, edited by Peroni in 1981, which brought a socio-economic approach to the analysis of cemetery archaeology. Subsequently, other researches continued in this direction, bringing new contributions to the discourse of social developments (i.e. Piana Agostinetti 1985; Vanzetti 1992; Pacciarelli et alii 1996). The same methodologies which rest upon static-combinatorial analyses were also applied by Iaia (1999) to villanovian cemeteries in Latium and Pacciarelli (2000; see also 1991, 1999) to the Iron Age cemetery of Torre Galli. In both the cases the authors dealt with communities with a certain degree of centralization.

The problem with many of these studies is the simple equation of the nature of the burial of the dead with the identity of the deceased in life. These studies did not address the fact that death can itself be an opportunity for the living to turn someone into a powerful ancestor. Accordingly, a completely different approach in the early 1980s
focused on the key role of ideology in funeral practices. The stress was put on the necessity to widen the contextual framework in order to understand those social behaviours which affected funeral rituals. Following such ideas, D’Agostino (1985), who studied the Iron Age cemetery of Pontecagnano (Campania), showed how opposing funeral rituals in contiguous areas would result from a different manipulation of ideology by specific social units. Similarly Iaia (1999; see above), following post-processualist approaches, believed that it is necessary to understand the logic behind the ritual, before any attempts to reconstruct social organization. Our ‘rating’ of the importance or wealth of particular substances, number of grave goods, size of burial etc. may not correspond to prehistoric values.

In 1992 Bietti Sestieri carried out a different method of research. Her work on the Iron Age cemetery of Osteria dell’Osa (Latium), marked a break with the previous traditions, highlighting the complex relationship between archaeology and anthropological analysis. The main contribution was the shift from “the archaeological gender” - defined by material culture - to “the anthropological gender” - verified on the base of scientific analysis. Other authors (Bianco Peroni et alii 1999) combined together the anthropological determinations and the analysis of grave-goods associations. On the basis of the distribution of grave goods related to osteological data, they concluded that the Iron Age society of Pianello di Genga (Umbria), was structured along lines of sex and age, with a strong emphasis on kinship units rather than hierarchical differences.

Recently, Peroni and Vanzetti (2006) approached the study of the “sociology of the funeral ritual” in order to demonstrate that the combination of different methodologies such as the anthropological, the systemic and the statistic-combinatorial analysis, may be successful in understanding social representation through funerary rituals. Their study processed all the main research about cemeteries in order to address the crucial relation between funeral ritual and different forms of societies. Rooted in American processualism, the model they applied considered funerary contexts as systemic complexes, in which every single element interacts with the others involving a mutual relationship of action-reaction. Accordingly, the more we can isolate such elements, the more we can detect formative processes which operated at different levels (micro-meso-macro-level: tomb, group of tomb and the cemetery as a whole). This approach represents a shift from the more traditional attempt to identify “status” and “roles” on the basis of the association of grave-goods to the study of changes in mortuary practices in order to understand how the society of the living express itself and its organization through funerary practices.
A good case in point is the custom of burying weapons in some Middle-Recent Bronze Age cemeteries in contiguous areas in north Italy. The relative absence of weapons in cremations during the second phase of the Olmo di Nogara cemetery (Veneto) (Recent Bronze Age) is compared with the more common presence of swords in selected areas of other cemeteries (Casinalbo, Montata di Reggio Emilia- Emilia Romagna). Though the treatment of the deceased in cremation rituals is similar between the two areas at the beginning of the Late Bronze age, the main difference is to be found in the contrasting ritual implications that the deposition of weapons may have had. Both areas had weapons, but only some chose to inter these with individuals in a funerary context: our role is to try and explain why. Moreover, the rank-size diagrams of the rarity index seemed to strengthen this consideration, demonstrating that for example the cemeteries of Olmo di Nogara and La Montata di Reggio Emilia had a similar social organization, a part from differences in the ritual. The diagrams also showed that the Final Bronze Age in north Italy is characterized by two different pathways of development: some cemeteries appeared still to reflect a tribal structure (i.e. Veronella, Angarano), whereas some others had more stratified forms of society (i.e. Narde). There are also differences between the northern and the central-southern Italy in the processes that led to urban societies.

It emerges clearly from the studies I have included in this brief survey, that Italian research is highly dependent on a scientific rigor of controlled methodologies. Accordingly, the study of rock art, for example, as a creative product of human ideology colliding with the rigid methodology of data-processing that proto-historians often employ. The general belief is that the analysis and the availability of data condition our ability to combine investigations of ritual, art, social structures and symbolisms, as a unique manifestation of human behaviour. As a result, we mainly have two areas of research, which too often follow different paths: on the one hand, the symbolic and cultural carving tradition and on the other hand, the analyses of the archaeological data.

So far, I have only illustrated in a schematic way different models of societies and how internal or external factors may be influential in the processes which led toward more complex forms of organization. I have also mentioned how authors put emphasis on material culture as a means for social reproduction, particularly of relations of power and difference (i.e. see above Larsson 1986; Kristiansen 1978). In this perspective, a wider understanding of how objects are closely intertwined with the internal societal dynamics is necessary. Metal is key to these models, as a medium of exchange as well as a means of displaying power (at the sharp and impressive end of a blade!). Accordingly, this thesis focuses on the central importance of metalwork and in particular, the key artefact of the
spearhead: selecting one object with which I shall explore these issues. I have chosen the spear because of its multiple roles and symbolic significance for these societies (as both a weapon of warfare and hunting). In order to evaluate the role and significance of the spear, it is necessary not just to look at its form but the history of its use, changes in shape and form, and the context of its deposition and discovery. Indeed the broader theme of the ‘consumption of metalwork’ is a key issue I will address in the next section.

I shall now turn attention to the principal works which have been devoted to the study of exchange systems. Closely related to this issue is the consumption of metalwork according to different social organizations. Changes in attitudes towards metalwork in the last few years, resulting from the spatial and chronological variation of bronze depositions, have favoured the development of several models and interpretations, which I shall illustrate in the next section.

1.5. CONSUMPTION AND DEPOSITION OF METALWORK AMONG BRONZE AGE SOCIETIES: AN OVERVIEW

For much of the twentieth century, metalwork was used to formulate typologies in order to build chronological sequences. The aim of these classifications was the definition of cultural traits as well as the identification of diachronic stages within the development of metal technology. Interestingly, the first attempts were devoted to the formulation of typologies and chronologies in order to define a sequence of cultural traits. As a matter of fact, most of them are still in use today (Reinecke, Muller Karpe, Montelius’). All these approaches were gathered in volumes such as Inventaria Archaeologica and Prähistorische Bronzefunde.

Subsequently, during the sixties the economic and technological factors went out of fashion. By the early seventies new avenues of research developed and new attempts were made in order to give alternative explanations. Types of exchange systems (long-distance or local exchange), meaning of depositions (social, economic, symbolic) and function of hoards (utilitarian/ritual, commodity/gift) were the principal themes of the archaeological agenda.

A number of authors have discussed the ways in which exchange might have been practised. Renfrew’s influential study made a distinction between ‘down-the-line’ and ‘prestige-chain’ systems (1975). Following these ideas, a supply of goods passed from one community to another. In the case of the ‘down-the-line’ mechanism of exchange, at each transaction each community kept part of it and passed the rest on to the next group. The
volume of material decreased from one transaction to another so that the more the place was located near to the source, the better it was supplied. The concept of the ‘prestige-chain’ is quite similar, despite the fact that it implied the transmission of valuable objects. In the author’s view these models might have been important in detecting the places where objects originated, but also the nature of the exchange.

In the same period, new models influenced by social anthropology emerged. The main focus was turned on the ritual consumption of bronzes. Renfrew (1973), inspired by Polanyi, applied the model of gift exchange to small-scale Bronze Age communities. The author interpreted the symbolic value of objects in prestigious exchange systems in terms of gift to gods. This work reasserted the fact that modern monetary economies do not apply to non-capitalistic societies: they operate on a different form of economic logic… one in which the worlds of deities, spirits and ancestors also had to be taken into account. In the same years, influential studies focused on the socio-economic meaning of metalwork. Influenced by Marxist theories of gift exchange formulated in anthropology, authors developed and formalized the concept of “prestige good economy” (Frankenstein and Rowlands 1978, Rowland 1980, Kristiansen 1998).

The logic behind the practice of bronze deposition was a crucial question that many authors tried to approach in different way. One branch of the research explored the modes through which the elites enhanced status and power. Particular attention was devoted to the acquisition of luxury goods as well as on the manipulation of the highly ritualized exchange system. The idea of “prestigious goods” became a key factor whether they were found in metalliferous or non-metalliferous regions. Accordingly, the practice of depositing metals (i.e. in hoards, graves etc.) was believed to be a powerful tool that elites used strategically in order to maintain either relations of dependence between regions or the value of object, avoiding inflation (Kristiansen 1984, 1998). In addition the giving-up of objects to the ground would have preserved their special character (Rowlands 1980) by taking such objects out of circulation and enhancing their rarity value. Similarly, in metalliferous regions the variation in the number of hoards was explained in the context of periods of stress which would have affected the availability of bronzes. Accordingly, periods of disturbance would have favoured an increase in hoarding practices as well as their markedly martial content (Burgess and Coombs 1979).

A slightly different approach is that of Bradley (1982, 1984, 1988, 1990). In his work, influenced by the model of the potlatch ceremony within native American societies (Gregory 1980), he deemed that the bronze exchange in the Late Bronze Age, was competitive in nature. Accordingly, in his study of metalwork consumption in north-west
Europe Bradley (1982) argued that any form of bronze deposition (hoards, grave goods, single finds), had as a prime scope the overt destruction of property as a demonstration of extraordinary surplus and ability to dispose of it to ritual ends. The production of surplus needed for sustaining such lavish and highly performative practices was fundamental (1984). Following Rowlands (1980), this practice would have predominantly occurred in periods of social competition, in order to balance the relations of dominance. Nevertheless, Fontijn (2002) stated that the interpretation of different modes of depositions as “ritual consumption” is a functionalistic explanation that does not account for the ways in which this practice was constituted. In the author’s opinion the shift should be from etic to emic explanation.

So far, the attention was on the major theories about the circulation of artefacts and on how they have necessarily included the deposition of objects. Particular attention was traditionally devoted to the study of hoard composition in order to understand metalwork organization and social systems. In the course of the last century, different traditions followed one after the other, developing concepts such as “utilitarian“ and “ritual” depositions. In the late nineteenth century the main focus was the functional classification of hoards on the basis of their contents (craftsman, merchant, personal and founder’s hoards), with the belief that these assemblages were temporarily stored and for some reason never retrieved (Evans 1881). As early as the second half of the nineteenth century, Worsaae (1866) give a fundamental insight into the issue, still debated, of ritual versus profane. The author supposed that some tools could have been regarded as votive depositions, thus an offer from a metalworker to a deity. Subsequently, particular attention was put on the special treatment of objects in ritual deposits (Hodges 1957).

In the early eighties, the study of British metalwork in the Late Bronze Age of Rowlands (1980) provided a revised classification of hoards and single finds, which primarily focused on the function of objects (tools, weapons and ornaments). In his scheme scrap hoards would have indicated systems of accumulation, recycling and production. The author demonstrated that regional variations in the practice of hoarding as well as in the distribution of single finds rested upon different organizations of the exchange system (ibid.164-165). In this model, Rowlands suggested that hoards containing ready-made objects, fit to enter immediate circulation, would have been composed on a seasonal basics ensuring the smooth supply of finished metalwork all over the year. Contrarily, single finds might have represented production ‘on demand’ from a particular consumer or patron. Moreover, the spread of spearheads and swords over vast
areas, might be related to the activity of “warrior smiths” operating in another “economic and technological conditions” (ibid. 164).

Opposed to these models is the “ritual” interpretation of bronze depositions, for which their lack of retrieval could represent a purposeful act: a permanent ‘giving over’ of gifts to the gods or other spiritual recipients. This branch of research developed predominantly in northern Europe in the second half of the nineteenth century (Worsaae 1866) with later developments in the second half of the following century. Emphasis was put on the environment of the context of find in order to distinguish between wet and dry locations (Eogan 1964), as water was considered as a particularly significant medium in which to make such offerings. Subsequently, a number of studies attempted an interpretation of the distribution of certain objects in watery locations: from “ceremonial weapons” in “warrior hoards” (Burges et alii 1972) to cultic objects deposited in rivers (Davey 1971). Levy’s work (1982) addressed the presence of food in ritual depositions as a critical factor in distinguishing “ritual” from “utilitarian”. Although some principles of these approaches are still popular, they were not spared from criticism. Accordingly, Larsson (1986: 158) affirmed that a dry location might have not only been the final destination of utilitarian objects – a locale such as a significant hill, for example, might also be a suitable place to make votive offerings. In fact, many of these authors argued, the types of objects included in hoards did not greatly vary from so-called ‘ritual’ to ‘utilitarian’ depositions.

The fact that a vast array of objects, ranging from practical tools, cut or unfinished objects to well-executed ornaments and ceremonial objects, were included in hoards, affects the distinction between commodities and symbolic objects, thus between utilitarian and ritual assemblages. In Needham’s view (2001), hoards might have varied histories: a ritual hoard deposited by someone with religious intentions, may be encountered by someone else who retrieved objects from it, seeing it more as a utilitarian deposit of metalwork. Through loss of memory, or deliberate theft, even, the significance of such hoards might be radically transformed. He suggested that in particular periods the control of metal supply in circulation may have especially encouraged the optional retrieval of objects buried by a previous generation or group. Also in the case of depositions in watery locations the author indicated a number of devices for retrieval (i.e. markers, containers or cord attachments). Nevertheless, recovery was only possible when it occurred in short time. Contrarily, in the case of damage inflicted to objects before deposition, the author argued that such a treatment might have represented the metaphorical end of the objects’ life-cycle and accordingly he suggested a motive of intentional, permanent deposition: putting this object beyond ‘re-use’ by another. The author concluded that the selective and
intentional attitude toward depositions may have relied not upon exclusive categories of objects, rather on other factors including: the choice of objects, the occasion in which the deposition occurred, participants involved in such rites and the social conditions which led to either recovery or permanent deposition.

The concept of opposition between utilitarian and ritual was also considered by other authors, who suggested that the status of objects may have changed from one transaction to another, according to increases in social distance (Burgess and Coombs 1979, Gregory 1982, Fowler 2004). Bradley (1985: 704) considering the spatial distribution of “founders” and “merchants” hoards, suggested that they were likely to represent assemblages which lost their former value. Accordingly, the evidence of groups of hoards in areas outside the community would have represented perhaps the reorganization of metalwork during periods of crises. In a later work, the author (Bradley 1988: 256) broke down this distinction, suggesting that when the demand for metal supply for everyday activities increased due to economic crises, fine metalwork which was usually found in “ritual” contests came to be commoditized in scrap hoards.

Despite subtle shifts in opinion discussed above, there are some scholars who have acknowledged that some types of objects were regularly associated with different contexts, constituting significant patterns. This was one way forward in the recognition of intentionality behind the deposition of objects (Needham 1988, 2001, 2007; Verlaeckt 1998, Bradley 2000; 2005 see also the attempts of the French school summarised in Lehoërff 2009). Needham (1988) identified patterns of association in hoards and graves in British Early Bronze Age. However, the author stressed the fact that instead of purposeful patterns, they may rather represent changes in metalwork organization. The concept of deliberate deposition has also been extensively treated by Fontijn in different works (2002, 2005, 2008). Harding (2000: 360) argued that if we accept in principle the throwing of objects in rivers as an indication of deliberate deposition, the leaving of "imperfect objects" in other locations should not be surprising. In order to make a break with the categorizations which have permeated the archaeological debate, one way forward in the study of the phenomenon of hoarding is the recognition that sometimes the particular treatments of objects before deposition has no practical or logical purpose and this demands that we consider more symbolic explanations for such damage (Turner 1998; Nebelsick 2000; York 2002; Roberts and Ottaway 2003) (for more details see 7.8).
1.6. THE STUDY OF METALWORK AND BRONZE AGE SOCIETIES: THE STATE OF THE QUESTION IN THE ITALIAN PERSPECTIVE.

Having explored in the previous sections how communities might have developed towards complex societies in Italy (1.4), I shall now illustrate how different authors have linked the study of metalwork in the form of hoards and votive depositions to both socio-economic dynamics and ritual behaviour amongst past societies in Italy. On the one hand, we have the typological school which was created by Peroni (1.1). On the other hand, from the seventies onwards a further amount of published works predominantly characterized by typologies is represented by the Italian volumes of the Prähistorische Bronzefunde. At the same time, many authors have used typological classifications in order to define chronological sequences and metallurgical horizons as well as to explain the organization of the production across time (Bietti Sestieri 1973; Carancini 1979, 1996, 1997, 2004; De Marinis and Frontini 1991-1992; Carancini and Peroni 1999; De Marinis 1999; De Marinis and Salzani 2005). Importantly, De Marinis (2002) tried to revise existing typologies and chronology of northern Italy at the light of dendrochronological dates from recent excavations.

A different approach is that of Claudio Giardino. The author dedicated most of his work to the technological aspect of metallurgy and his most comprehensive study is a monograph published in the British Archaeological Reports in 2005. However, similar studies were also carried out at a regional scale (i.e. Prehuschen 1973; Marzatico 1997 a; Bietti Sestieri and Giardino 2003; Giardino 2008). Other approaches were devoted to the study of the origins of the contacts between Italian metalwork types and their foreign counterparts (among them see for example: Foltiny 1964; Bianco Peroni 1970; 1976, 1979, 1994; Bietti Sestieri 1973, 1976-77, see also 2005; Vagnetti 1974; Jung 2006, 2009; De Marinis and Salzani 2005, who revised some of the considerations about Middle-Recent Bronze Age swords made by Bianco Peroni 1970).

A large amount of work has focused on the economic value of metalwork and on the circulation of metal artefacts in terms of their exchange value. In these studies, fragmented objects contained in Recent and Final Bronze Age mixed hoards were believed to reflect a deliberate practice which would have facilitated economic transactions. In this perspective, fragmentation would have practiced in order to make broken pieces of bronze correspond to contemporary ‘ponderal’ systems (i.e. a scale of increasing units of value, according to substance and size e.g. Peroni 1966, 1989: 277-282, 1996: 287-288; 389-390, 2004; see also Carancini 2004). The idea of ponderal systems being in use at least by the
Middle Bronze Age seems to be strengthened by the finding of weights corresponding to different Aegean units in the *terramare* sites of the central Po plain as well as in other settlements in central and southern Italy (looped weights) (Cardarelli *et alii* 1997; see also Pearce 2007: 88-90). In 1992 Borgna published a work about the hoard of Madriolo (Udine - Friuli Venezia Giulia). The assemblage can be attributed to the twelfth century BC. Much emphasis was put on the fact that the pick-ingots contained in it could have represented a quantity of metal easily recognisable for its form rather than for its weight. Similarly, the axe-ingots contained in Final Bronze Age hoards in Southern Italy were considered to be standardized forms, which were only used for their exchange value; this idea was strengthened by the fact many were unfinished or unused, or had shaft holes too small for practical or functional usage (Peroni 1996: 476). (However, this study did not address the *symbolic* importance of this form, nor the fact that unusable miniatures of artefacts are found in many eras, without apparent practical function). In a recent contribution, Borgna (2000-2001: 289-294) commented on the role of fragmentation in hoards, arguing that smiths had perhaps the technological knowledge in choosing broken pieces for recycling on the basis of their bronze content and properties. As we shall see later on, however, fragmentation as a practice may have other symbolic qualities which need addressing.

Generally speaking, Peroni is the author, who gave a fundamental insight into the discussion about the organization of the metallurgical activity within different socio-economic contexts; his book “L’ Italia alle soglie della storia” was published in 1996 and received large consensus in following works. The author’s argument can be resumed as follows:

- by the Middle Bronze Age (ca. 18th- second half of the 14th century BC), the evidence from cemeteries, new settlement assets and the increasing population density, suggest the emergence of communities which relied upon land ownership (1.4). In this period the role of warrior elites was different from previous phases of the Bronze Age. The introduction of swords and spearheads, which led to developments in modes of warfare, attested to the importance of warrior elites. Besides military duties, they controlled the inter-site exchange network, that supplied them with metal resources and prestige goods (glass, ivory, amber, precious gemstones, *faïance*), on behalf of the whole community. In this perspective, the accumulation of “wealth”, in the form of hoards and votive depositions, was essential for reproducing and maintaining power relationships among emerging groups. This is what Peroni called “*scambio*
organizzato” (ibid. 26). In addition, this was made possible by full-time specialists, working within the community.

- this is the situation before the contacts with the Aegean and particularly with the Mycenaean traders flourished around the 14th century BC. By the Recent Bronze Age, these new contacts, which prevalently involved the southern of Italy, overturned the previous mechanism of exchange. The recipients of the luxury goods imported from the eastern Mediterranean were the elites, but also members of the communities affiliated to them. Although the elites were still the main economic partners within long-distance networks, the new rationale behind the accumulation of such exotica is their redistribution in order to create relationships of dependence (societies gentilizio-clienterali see above 1.4) (ibid. 30). The social unit involved in the mechanism of redistribution increased to such a point that the imports were no longer enough anymore. In order to sustain these relationships, objects imitating Aegean prototypes, were also produced locally in southern Italy by foreign artisans to supplement the import trade (ibid. 28). Influences in the opposite direction are also attested. This social organization favoured the creation of social differences, which were also reflected in the centripetal distribution of graves within cemeteries, differentiated on the basis of roles and ranks (ibid. 31). Increases in metallurgical production as well as the wider distribution of similar metalwork types is (commonly defined as metallurgical koiné) created an intertwined network of contacts which encompass Europe and the Mediterranean Basin. However, Mycenaean shards were also found in settlements, which did not have a direct contact with the Aegean traders. This evidence led Peroni to define a different kind of exchange, the so-called scambio diffuso: an exchange, through which imported objects passed from one community to another one, according to habitual modes of contacts (ibid. 280-285). The author argues that the increased number of mixed hoards with fragmented objects may have had an important role in recycling processes, but also in balancing these inter-societal transactions, with fragments reflecting specific ponderal systems (see above).

- the evidence from the Final Bronze Age settlements in Etruria showed that at the end of this period there was the outset of a process, that led first to the concentration of people in bigger centres and second to the passage to urban societies in the Iron Age. The new settlements were located on plateaus of approximately 100 acres, characterized by an occupation which has been defined as “leopard spotted”, with huts separated from each other by empty spaces (Guidi 1989). Colonna (1988) interpreted these empty spaces as plots of cultivable land owned by family units, which would
have made them independent economic entities (for further studies about the passage from proto-urban centres to early state society in central Italy between the end of the Bronze Age and the beginning of the Iron Age see also: Di Gennaro 1982, 1986; Di Gennaro and Guidi 2000; Iaia and Mandolesi 1993; Pacciarelli 1994, 2000; Guidi 2000, Attema et alii 2003, Schiappelli 2008; Alessandri 2009). Accordingly, the accumulation of wealth relied no longer upon the prestige goods, but on the control of the means of production (land and livestock) (Peroni 1996: 39). The composition of the hoards in this period is marked by a distinction between the north and the south of Italy. The form of exchange already described for the Recent Bronze Age, continued in north Italy. Contrarily, in the south of Italy the assemblages were constituted by mainly complete objects. In addition, there was also a decrease in the classes of metalwork included in hoards and a predominant bias toward axes. This process is more evident in the Iron Age, when in south Italy we find hoards with complete, not-finished, pristine and non functional objects (see above). This evidence has been interpreted as the power of elites in controlling and manipulating the metallurgical production in order to create artefacts, which were only used in economic transactions (ibid. 476).

If this is the political and social framework, Carancini (in particular 1996: 297-302; 2004: 288-289) tried to examine further issues concerning the deposition of metalwork. The author stressed that we should not oppose economic purposes against ritual ones, especially when we deal with earlier forms of accumulation of wealth. In this perspective, early Bronze Age hoards which contained only one class of object (such as axe hoards, dagger hoards, neckring hoards etc.) may have an economic value because they could be exchanged. At the same time, they may represent collective depositions given to the ground during ceremonies. The participants would be emerging male individuals exchanging valuables in the form of gifts, in order to mark land ownership or to stipulate alliances among neighbouring communities during a period characterized by settlement instability. Accordingly, the weapons included in the hoards would be the proof of their status.

Yet by the Middle Bronze Age onwards votive offerings in rivers became more common and this evidence must be linked to the increasing importance of warrior elites. There seems to be a shift from collective to individual practices of depositions during a period in which societies became more stratified. Heroic values and the warrior identity of emerging groups are now manifested through the deposition of objects in wet places and
in warrior graves. By and large, Carancini (1996) argued that these earlier hoards should be linked more to ritual rather than temporary deposition for safe-keeping.

Different reasons must lie behind the fragmentation of metal in Late Bronze Age hoards. Broken pieces could be used for balanced transactions in a period highly influenced by the Aegean contacts (i.e. ox-hide ingots; see also above). It is likely that chiefs in stratified society had the political power to translate the economic surplus of communities into the accumulation of metal, mediating and masking it through ritual and religious practices. However, Carancini (2004: 289) concluded with a remark about the ambiguity of fragmentation in hoards in the late proto-history, alluding - besides its economic purpose – to the possibility of ritual fragmentation that, in this period, appears also extended to other industries, such as pottery, but also to other contexts.

It emerges clearly from this brief overview that the predominant approach to the study of metallurgy sought to mainly explain the hoarding phenomenon, especially in the late proto-history, in socio-economic terms. Nevertheless, I have also shown that in these studies there are particular allusions to the potential ritual purpose of the Bronze Age deposits and offerings, which however remain unexplored up to now. In the field of Italian prehistoric metalwork, these kinds of studies are uncommon and they still receive little consideration. However, at the end of the seventies, Bianco Peroni (1978-79) pointed out the recurrence of some bronze objects, mostly offensive and defensive weapons, in wetland and dryland depositions, such as rivers, bogs and hill tops. In addition, there are some recent studies which tried to challenge more traditional interpretations. In particular the visual examination of broken pieces contained in Final Bronze Age hoards in central Italy, led by Toune (2009; but also his current PhD research, personal communication), are considering fragmentation in terms of a deliberate transformation, which cannot be explained as a solely practical exercise. Similarly, Lehoërff (2009) argued that objects in Late Bronze Age hoards in northern and central Italy were intentionally associated and fragmented before deposition. A different contribution has been provided by Mark Pearce’s study (1998) of Copper and Bronze Age metal objects in northern Italy. The metal analyses of selected bronzes from hoards and rivers demonstrated that the tin content of the alloys may be important in clarifying the role of metalwork among past societies.

So far, I have explored how in Italy and more generally in Europe, different authors have related the study of metalwork to social developments. I have shown how the accumulation of metal objects is traditionally believed to be a fundamental factor strictly
related to the powerful role of emerging groups during the Bronze Age. I have also mentioned the fact that supernatural forces and other member of elites were gifted bronze objects in order to create obligations. Yet, how is the flourishing of weapons interpreted within the Italian studies of metalwork? What is the role given to them in these works?

1.7. BRONZE WEAPONS AND WARRIOR ELITES IN THE ITALIAN PROTO-HISTORY

I have already explored how assemblages collected in hoards were often interpreted in socio-economic terms. The following section will discuss how the evidence of bronze weapons in different contexts of deposition has enhanced ideas about warrior identity of elites and male dominance. This is particularly evident by the Middle Bronze Age (ca. 1700 B.C.) onwards, when a specialized set of weapons, namely swords and spearheads were introduced. Traditionally, the flourishing of weapons as well as two-wheel chariots and fortified settlements in the course of the Middle Bronze Age was directly linked to the increasing competition among members of elites over land and resources (Peroni 1996: 16). Weapons are mainly found in votive depositions, hoards and graves and they are generally linked to prestige objects owned by members of elites.

In this period, as I have already mentioned above, there is an increasing evidence of single objects deposited in particular location in the landscape (i.e. rivers, lakes, hill tops, springs etc.), which some authors have deemed to be the most recognizable factors for the identification of practices carried out personally by members of elites. According to Peroni (2004: 162-164), these offerings are mainly weapons, but also ornaments which represent status symbols. Differently from the earlier phase of the Bronze Age, this form of individual practice locates numina in a supernatural sphere. In exactly the same way as the reciprocal gift exchange between members of elites, these supernatural entities become the recipients of offerings in order to create with them an elective obligation. Similarly, multi-object events in the same stretch of river or the alignments of weapons carved on the rocks in Valcamonica, for instance, would stand for a collective and continuative act that seems to strengthen the relationship between the warrior aristocracy and supernatural forces.

The evidence of swords from central alpine valleys as well as the very well-known bronze diadems and other objects made of amber and gold found at the lake-village of Ledro (Trentino) would attest to the existence of warrior members of elites, distinguishing themselves through martial paraphernalia (Marzatico 2004: 368; see also Di Pillo and Tecchiati 2002). However, the household organization (family units) of Fiave VI
(advanced phases of the Middle Bronze Age), does not seem to reflect any differentiation, despite the fact that the foundation of the site would have required a particular social cohesion. Similarly, in Alto Adige/Südtirol the presence of settlement sites on promontories defended by walls may have served defensive purposes, but also the manifestation of social cohesion (Marzatico and Tecchiati 2002: 65). Contrarily, in the same region, the evidence of cemeteries is so scarce (ibid. 74), that it does not allow any safe conclusion concerning warrior elites. Social cohesion implies a sort of leadership but this may be structured along other lines than the ‘warrior elite’ model.

For the later phases of the Bronze Age, Peroni (2004: 166) argued that the ritual fragmentation of objects as well as their exposition to fire would conceptually turn the practice of gift-giving into one of sacrifice. Concurrently, the substitution of real objects with miniaturized models would be still consistent with the making of votive offerings. Interestingly, these three practices are increasingly attested during the Late Bronze Age both in the religious sphere and in funerary rituals. This association is so strong that we may imagine the cremation as a sort of sacrificial offering to the gods, during which the deceased and their grave-goods are radically transformed through fire into an immaterial sphere.

Another argument that enhanced the idea of warrior elites is the evidence of weapons deposited in graves. For examples, the Middle Bronze Age cemetery of Olmo di Nogara (Verona) in north Italy represents the best case in point. The cemetery is characterized by bi-ritualism, with weapons (swords and daggers) being prevalently found in inhumations and in only one case in a cremation. Recently, it has been shown that the sword-bearers seem to group together in some areas of the cemetery (Salzani 2005 a, c). In addition, this evidence has been used to infer the social status of individuals and social stratification (Cupitò and Leonardi 2005: 489-494). That of the Olmo di Nogara is not an isolated example and other cemeteries in the Po plain show similar features. However, a study presented at the conference at Halle recently published (Vanzetti 2010) contrasted this view. The rank-size diagrams of the rarity index applied to the cemetery revealed that the community of Olmo di Nogara was centred around senior male individuals, who maintained a dominant role within the society. In addition an age-based structure can be also hypothesized (see Chapter 5). I believe that these results may play down the role of warrior elites in the past. Similarly, the existence of military elites, which manifest themselves by burying their members with weapons is also argued for later phases of the proto-history (Castellace: Pacciarelli 1999, 2000) and for cemeteries attributed to the Iron Age (i.e. Golasecca: De Marinis 2004).
In a similar way, the inclusion of weapons in the Late Bronze Age (13th-12th centuries B.C.) hoard of Pila del Brancón (Veneto) (Salzani 1994 a, 1998), less than two kilometres from the Olmo di Nogara cemetery, has been linked to the members of warrior elites performing the sacrifice of looted booty to gods (Cupitò and Leonardi 2005 b). Cupitò and Leonardi (2005 a: 490, 2005 b) also suggested that the fact that the amount of spearheads contained in this watery hoard outnumbers by far that of swords, reflecting a sort of hierarchy among warriors. In this perspective, the few sword-bearers would have had a dominant role, to which the larger number of spear-wielders was subordinate.

Other studies explored warrior identity as it figures in heroic poetry, compared with weapons and archaeological data (Guaitoli 2004). In her account weapons are the distinctive key of masculinity and they stand for male power and bravery in war. In addition, feasting and the exchange of prestigious goods along with oratory and hunting skills define the chief-hero-warrior status.

If weapons in general have enhanced ideas about male dominance and warrior identity as the dominant aspect of elite behaviour, what is the role of spearheads in these studies? By and large, Bronze Age spearheads have been predominantly used to infer improvements in the modes of warfare through the reconstruction of weapon sets (Pacciarelli 2000, 2006). Pacciarelli (2000: 188-189 and note 21) stated that even if the use of spears was not unknown during the Middle Bronze Age, a wider diffusion of the use of this weapon is attested by the Recent Bronze Age onwards. The fact that the two hoards of Pila del Brancòn (Veneto) and Lipari (Sicily) are predominantly constituted by spears, may represent a good case in point. According to the author (ibid. 189-190), by the Final Bronze Age the importance of the spear must be linked to the abandonment of the sword-based warrior combat and to the concurrent decrease of the size of swords in central and southern Italy. Accordingly, it is in the Iron Age cemetery of Torre Galli that the new mode of warfare based on formations - which to some extent is not unlike the hoplite phalanx – is evident. According to the common interpretations, the shorter spears are described as javelins and the longer and heavier ones as thrusting weapons (Drews 1993: 191; Snodgrass 1964: 115; Harding 2000), Pacciarelli (2006: 247-248) gave further insight into the issues, discussing the potential use of spearheads in warfare, on the basis of scales of lengths and weights (Chapter 4.4.1). However, such objects (unlike swords) may also have had a central role in hunting as well.

1.8. THE STUDY OF SPEARHEADS IN THIS RESEARCH
The works mentioned so far predominantly emphasize the close link between weapons and warrior identity. They stress heroic values and male dominance. Using Vandkilde’s words and according to her own critique of the “warrior tale” (2003: 135), it appears that “It [This view] mediates an elitist and heroic stereotype of the Bronze Age, stressing cultural similarities on a pan-European scale…The typecasting is largely maintained by which warriors are viewed as the brave-hearted heads of society. There is, likewise, an inclination to focus one-sidedly upon the privileged upper classes as if these were the only agents of significance”.

In addition, the fact that a sword, for instance, is a prestige object because it represents the status symbol of warrior elites and that warrior elites are identified by prestige objects such as swords can become a circular argument! We must proceed from the archaeological evidence, but this common assumption that a ‘sword makes a warrior’ has had a strong hold upon our interpretations of such data. Moreover, it may be worth noting that the predominant practice of sexing skeletons on the basis of grave-goods promoted an ideology of dominant masculinity. However, there are an increasing number of more or less recent works which demonstrate that in other regions weapons may be also associated with female-sexed skeletons (i.e. Stoodley 1999; Vavouranakis 2009). Such studies may lead us to rethink traditional concepts of gender in mortuary ritual in relation to social structure and role, in the course of the Bronze Age.

On the one hand, weapons have been always considered to have a key role among past society in terms of changes in modes of warfare. At the same time, the frequency of swords in graves has been always interpreted as reflecting the social and economic status of individuals. Contrarily, spearheads have only received a marginal place in these studies. I suppose that some of the reasons for that may be the lack of a comprehensive study of spearheads, the ambiguous character of this class of objects as well as the problems encountered in trying to catalogue them. Second, it is also true that there are difficulties in retrieving information about the contexts of spearheads: one of the major problem is that they are not frequently included in tombs, hampering any consideration about their significance within past societies.

On the other hand, the potential role of “weapons” has been never considered according to a detailed analysis of their contextual variation. While spearheads were strictly kept out of funeral practice at least until the advanced phases of the Final Bronze Age (1100-1000 BC), they recur predominantly in Middle-Recent Bronze Age settlements as well as in Recent-Final Bronze Age hoards. Indeed, we may ask why swords were dominantly present in some earlier cemeteries while spears in other contexts; why they are not so
often find together, although they represent the warrior’s weaponry and whether the swords in Middle Bronze Age cemeteries identified warrior graves or rather the selection of some of the warrior equipment? Therefore all these divergences of the role of weapons among past societies remain largely unexplored.

At the same time, traditional studies which mainly considered weapons in terms of class, have too often neglected the different stages which objects passed through as well as the attempts of individual to personalize and use objects contextually, following rules which are culturally dictated. In this perspective, the conventional link between weapons and warrior elites becomes commonplace in the Italian prehistory, obscuring the wider social effect that different practices must have had.

With this thesis I intend to focus on the role that spearheads may have taken on in different depositional contexts. It will be demonstrated that the association that ‘spearhead = weapon’, although undoubtedly true in some respects, is too simplistic, obscuring more nuanced aspects of the use of objects in the past. As a result, I shall try to focus on how spearheads have contributed to the lives of people and how they became meaningful among past societies. I will also try to demonstrate that in some instances it is possible to infer the metaphorical role of spearheads in social practices. Accordingly, the research questions that are central to this study can be formulated as follows:

1. Is there any pattern in spearhead depositions that can be recognized? There is any relation between them and different spearhead types?
2. To what extent the contextual analysis can make sense of how local cultural circumstances interact with meanings and identities which spears contain?
3. To what extent can macro edge-wear studies help to highlight the biographies of objects?

1.9. CHAPTERS OVERVIEW

After having stated the major problems in the study of spearheads in the Italian prehistory I shall illustrate the theoretical framework that will be used as the foundation of this research (Chapter 2). I shall also show how a methodological approach, which combines typological classification, a contextual analysis and macro edge-wear observations, will be successful in exploring how spearheads become meaningful among
past societies (Chapter 3). Some details about the distribution of different types of spearheads and how they changed across adjacent phases of the Bronze Age will be given in the typological chapter (Chapter 4). This chapter will also explore how the development and the flourishing of several spearhead designs across time may have reflected different attempts to increase the effectiveness of spearheads as well as different usages. The analysis will follow showing how an analysis of the association of spearheads with other metalwork types in different depositional contexts, may reveal more complex aspects of the use of objects, which goes beyond the too simplistic association spearhead = weapon (chapter 5). The subsequent section will be devoted to a detailed overview of the spearhead depositional contexts in order to discuss how the frequency and the absence of spearheads in some archaeological contexts may not represent random divergences, but rather a deliberate pattern of intent (Chapter 6). The last attempt will focus on the macro edge-wear observation of a sample of spearheads from north and central Italy, which range between the Middle and the Final Bronze Age (Chapter 7). The main objective of this chapter is to evaluate to what extent such a methodology can provide us with broader understanding of the how objects were actively used by people and how they acquire complex biographies during their use-lives. It will be also argued that the study of the marks on the surface of objects as well the state of completeness of objects may challenge more traditional approaches which typecast objects on the basis of the class they belong to. All the main concepts, which are essential in understanding the meaningful roles of spearheads in the past as well the potentialities and the limits of this research will be reviewed and debated in the conclusion chapter (Chapter 8).
In the previous chapter I have given a general account about the existing approaches to the study of bronze metalwork. I have tried to show that in the Italian debate concerning the character of Bronze Age societies, the consumption of bronze artifacts (production, circulation and discard) has been traditionally analyzed in social and economic terms, overlooking the symbolic dimension that underpins objects. Furthermore, the appearance of specialized and harmful weapons at the beginning of the Middle Bronze Age, such as swords and spearheads, has often been explored either as the direct proof of emerging warrior aristocracies (Cupitò and Leonardi 2005a, 2005b) or in terms of changes in the mode of warfare through time (Pacciarelli 2000, 2006). However, I have also illustrated that while these weapons in the majority of the cases have been investigated as a category of objects, the meanings that they may have taken on in different contexts of deposition has often been neglected. Moreover, in the specific case of Italian spearheads, I believe that the ambiguous character of these objects, the fact that they only rarely ended up in graves and the problems concerning cataloguing them hampered a comprehensive study that, unlike swords, has never developed an independent path within the archaeological agenda.

In order to understand the ways in which the Italian spearheads were deployed by Bronze Age communities in different communication systems, I suggest that a useful way forward is to explore the biographies of objects, in order to examine the particular meanings that they took on during their life-cycle, according to either the depositional context and the specific treatment of the object itself. In light of this proposal, this chapter will provide a theoretical framework for approaching spearhead depositions in Bronze Age Italy in order to understand what they might have meant themselves and for the community or the individuals who made use of them. I shall situate my arguments by introducing the following theoretical approaches rooted in an interrogation of the active relationship between people and objects:

**2.1. MEANINGFUL OBJECTS**

“This is an axe, how does he know?” (Hodder 1982c: 11). Ian Hodder’s question is crucial in the archaeological debate as it introduces an important issue within the study of material culture. The meanings of objects are as diverse as the registers adopted by
communities in order to exchange sets of information, which go beyond the ability of an object to perform the specific job it has been designed for (Hodder 1987: 1). In this perspective, the term “meaning” not only refers to the physical and mechanical functions of an object, but it also reflects different cognitive processes, which change according to contextual frameworks, namely symbolic meaning. In other words, as things move between different arenas or contexts, they change in meaning and significance. Pearce (2007: 28-31) explored in detail some of the implication of Hodder’s discourse within the classificatory methods. The author showed that the act of naming a class of object already represents a way of conceptualizing, classifying and interpreting it. In this way, giving a name to an artifact is an act that freezes its meaning, according to both language and a specific mental template that is culturally constructed.

As a matter of fact, every time we classify archaeological material (e.g. ‘metals’) we ignore a set of information which becomes blended together under our modern mental categories (swords, spearheads, daggers, etc.), thus neglecting the efforts of past people to distinguish particular things from other categories of objects. One example that can illustrate this point is the fact that, although two spearheads found in distant geographical areas belong to the same type, they may have ended up in two different contexts: a grave and a river for instance. In both the instances, they materialize diverse social practices, which are temporarily significant within particular historical moments. Concurrently, the particular loci of deposition comment on how people in distant areas employed objects in different communication systems.

This perspective also stresses that material culture is meaningful and it is used in an active, rather than passive manner: the meaning of objects is not the one ascribed at the moment of its production, but it is adapted, modified, transformed and substituted in new contexts. In some occasions, it may also loose its original meaning, assuming a completely different one instead. A contemporary example may be that of the Palestinian “keffiyeh”. The keffiyeh is the typical check pattern scarf, generally worn by Arab men. Traditionally it represented the symbol of Palestinian nationalism during the Arab Revolt of the 1930. For my generation it is the emblem of the intifada, the riots characterizing the violent Palestinian-Israeli conflict. On the one hand, it is generally worn around the neck by young left-wing students supporting the Palestinians as a political statement. On the other hand, it is also popular among some neo-Nazi groups as a form of criticism of Israel. At the same time, ignoring all its political contents, the keffiyeh became a fashion accessory worn by young teenagers in the West. Some fashion labels have also revisited the check pattern scarf, turning it into a luxury good.
The example shows that the meaning of objects is not fixed, rather they are manipulated in different contexts and subsequently their original meaning is modified in order to convey specific messages (sympathy and criticism for instance). The specific object is also the symbol through which individuals reshape and reaffirm their positions within the community (i.e. affiliation to the left or right party); concurrently, specific sections of the society identify themselves as a group, whose ideology and values materialize and are visibly shown by the garment. However, the political implications embedded in the scarf are shed when it becomes a fashion accessory. In this case its original meaning is totally transformed and abandoned to serve other purposes: from being the scarf of Palestinian peasants it has been revisited in order to satisfy consumer’s desire for aesthetically designed clothing.

2.2. THE FLOW OF TIME

So far, we have seen that artifacts are employed as a means of communication so that they are used expressively. However, objects are not meaningful in themselves, nor do they represent, along with society, identity and nature, separate categories to be studied in isolation. Instead, the meaning of objects arises from the relational interlinkages between objects and people who use them as a way to interpret basic relationships in society (Hodder 1982c).

An interesting elaboration of this view can be found in the work of Larick (1985), who has studied the symbolic use of spears among the Maa-speaking pastoralists in Kenya. The author has demonstrated that the ever-changing form of spears is used by males to identify themselves and others within a social context. The different styles of the Samburu pastoralists’ weapons seem to indicate a symbolic as much as functional factor. Spear styles identify the economic position, the physical and social status of Maasai males and they change as an individual passes through different age grades. Interestingly, warriors can bring innovation to the weapon technology from outside, making spears fashionable, while aged spears are reprocessed by junior warriors and elder individuals and they come to symbolize the non-warrior status. While a worn spear represents a way for young boys to emulate Maasai warriors, it continues to symbolize the prowess of the cohort for elders.

Larick’s study has demonstrated that the link between male individuals and the use of different forms of spears generates and maintains a wider network of relationships among Saburu pastoralists and it serves the prime scope for Maasai males to represent their social status, age-grade and active roles within their communities. However, the symbolic use of
a particular form of spear communicates a temporary status, thus a short-term social condition which only exists at a particular time in the individual’s life cycle. Using Thomas’s words:

“Identity and meanings are both relational constructions, which emerge through the process of human Being-in-the-world. Identities are not located within any one entity, and are furthermore spread across time. For this reason, we must now turn our investigation to the issue of temporality.” (1996: 30).

The main aim of prehistoric archaeology has been the creation of an objective sequence of past events. These chronological schemes rely upon the analysis of stratigraphy and absolute dating methods and they are created by ordering the residues of material culture within them. In this sense time acts as an external parameter, which constitutes the framework of archaeological investigation. Nevertheless, scholars are now more aware of the fact that time should be considered in conjunction with social life (Gell 1992; Ingold 1993, 2000; Thomas 1996; Bradley 2002). In this perspective, time is conceived as an internal dynamic to the process of living in society, and as such it is experienced in different ways by human actors. For instance, time may refer to natural phenomena or also important stages in people’s lives (Gell 1992). In this perspective practices and actions are closely intertwined with time (Gosden 1994), which become a subjective parameter and a cultural construct.

The Bronze Age provides a number of examples which may illustrate this view. The fact that specific objects were periodically removed from circulation to be deposited in rivers or on hill tops for instance may have punctuated specific events in individual’s life path. For example, Fontijn’s study (2002, 2008) has suggested the possibility that the deposition of set of weapons in southern Netherlands watercourses may be linked to the de-construction of warriorhood; hence, the giving up of metal artifacts in special locations represents a short-term act which severs the new status from the previous one. However, we know that this specific practice was also maintained over time. The fact that the particular events were repeated cyclically, perhaps over short intervals, suggests that the adherence to traditions was made possible by drawing on memories as well as objects from the past. Accordingly, the performance of social practices as well as the use of objects are fundamental in keeping alive fragments of the past in the present, representing acts of memory.
2.3. REMEMBERING THROUGH FORGETTING:

Traditions may be conceived in terms of sets of information transmitted and assimilated by people through time; they are maintained through an act of remembrance and representation. Bourdieu’s work (1977), which emerges in the field of anthropological studies, is very influential in accounting for what we call tradition. People at early stage in their life absorb a shared *habitus*, which is a set of conventions, skills and ways of acting. This conduct is acquired and transmitted through the participation to social practices and activities of everyday life. Because individuals are composites of different substances, mind and organism at once which act in a relational and environmental reality. Intentionality intervenes as being immanent in the practice itself, thus it is generative, temporal and relational with the surroundings (Ingold 2000). In this perspective, these common modes of social behaviours, which are perpetuated and enshrined in experience and routine acts, are neither transmitted passively nor codified, rather they are flexible and open to strategic manipulation by people in the present. In the same way, intentionality is very influential in the choice of others to break with past traditions (Hodder 1993). For example, the building of settlements, the extended circulation of portable artifacts may have created different kinds of memory (Bradley 2002: 13). The repetition of such practices or activities through time is made possible by evoking the original occasion of its usage, thus giving power to its origins (Rowlands 1993: 146) and reproducing a cultural process.

These ideas help us to read further nuances of meanings in the mortuary practices of Middle–Recent Bronze Age Italy. During the Middle and Recent Bronze Age the deposition of spearheads in graves is a very rare practice so that it may be considered an uncommon tradition or, as it is generally interpreted, a “ritual taboo” (Cupitò and Leonardi 2005a: 491, note 12). Contrarily, swords are recorded either in some inhumation cemeteries in grave pits (i.e. Olmo di Nogara – Veneto: Salzani 2005 c; Povegliano Verononese – Veneto: Cupitò 2004, 2006), or collected in a specific area of the cremation cemetery after being placed on the funeral pyre, as in the case of Casinalbo (Emilia Romagna) (Cardarelli *et alii* 2006). Because a vast array of artifacts is often employed in mortuary practices, it has generally been tempting to look at them in terms of personal wealth and attributes of single individuals, which represent their own personal status. Accordingly, the presence of swords in Middle Bronze Age cemeteries in Italy have been regarded as symbols of warriorhood, used to conjure an image of society which contains
individuals of high status (Peroni 1997; De Marinis and Salzani 2005: 413; Cupitò and Leonardi 2005a, 2005b: 488-490).

Nevertheless, a funeral is the occasion that involves an interaction between the deceased person and the mourners and it provides the arena for the construction of identity (Barrett 1991, 1994; Mizoguchi 1993). We acknowledge that “people do not bury themselves” (Parker Pearson 1999: 3) and they are treated and disposed of by the living: corpses, like other objects, represent strategic capital, and human remains may also have been conceptualised as forms of portable artifacts, carrying symbolic meanings (Mizoguchi 1995). By understanding this we can acknowledge that, because identity is an ongoing production (Brück 2004: 311), more often than not grave goods associated with death comment on the character of the relationships that configure the dead person as she or he was in life (Hoskins 1998). Funerals are the social arena where emotion, memory, identity and personhood are deployed (Barrett 1990; Mizoguchi, 1993, 1995; Parker Pearson 1999; Chapman, 2000) and during which the meaning of material culture is under continual construction and transformation as it is dependent upon different motivations and aspirations.

In this sense, we should consider the traditional interment of swords with the dead in Middle Bronze Age inhumation cemeteries as the selection of those objects which better commemorate the relationship between the deceased and the mourners who participate in the funeral. Different factors (i.e. emotional, social and ritual) may have played an important role in the selection of the particular objects to be buried (Williams 2005: 254) and the same factors may have dictated the exclusion of some others; spearheads may be a good case in point. I believe that warriors are ill-represented in these cemeteries: a full ‘weapons set’ (sword, shield and spear etc.) is never recovered… the inclusion of the sword in some burials may thus have other meanings apart from solely denoting ‘warrior’ status. It may be used to symbolize age-set or membership of a particularly influential martial cohort. Such objects could be gifts to close off or initiate a debt. They might even be equipment which a particular individual may have been thought to require, due to duties they had to undertake in the afterlife. Even be regionally distinct traditions about whether to bury or bequeath such objects. This is important, when exploring regional differences in sword deposition on the Po Plain compared with other regions. The lack of swords in some funerary contexts could be used to call into question the accepted model of warrior aristocracies, but this might instead represent a strong tradition of martial heirlooms, rather than the giving up of these objects as grave gifts.
Thus, rather than only ascribing the internment of swords to the competitive display of high status members of emerging warrior elites, I would argue that it may also provide an insight into the particular meaning that certain communities gave to them. For instance, the fact that during the entire Middle Bronze Age some of the swords recovered in the cemetery of Olmo di Nogara were placed in the area of the pelvis, calls to mind a phallic symbol (Cupitò and Leonardi 2005a: 488) that may have also commented upon the individual’s full adult male, virile status. As a matter of fact, swords are prevalently associated with mature, but also with adult and to a lesser extent with senior males, but never with young individuals (under 25 years old). Moreover, in the majority of the cases they do not seem to be a personal belonging of the deceased, rather offerings made by the mourners (Salzani 2005 a: 298).

Contrarily, spears and other objects, such as axes for instance, may have been deemed not appropriate for these mortuary practices. Accordingly, they represent a prohibition on certain types of grave goods: an absence of evidence which nonetheless represents a real and deliberate practice. In this perspective, the presence of swords in relation to the absence of spearheads may have had a mnemonic function in representing and reconfiguring more complex social relationships than only the individual’s status (such as, the maintaining of distinctions between different age-grades).

The particular meaning that is given to objects is drawn on from the past and cyclically reactivated by the performance of such practices in the present, creating the basis of its perception in upcoming future. Mizoguchi, following Bourdieu’s work (1990: 52-65 cited in Mizoguchi 1993) suggested that it is the repetition of the _habitus_ through time that results in ‘unintended consequences’: minor variations which in the end amount to large-scale changes when viewed over the long-term (such as the passage from inhumation to cremation practices in the Late Neolithic and Early Bronze Age England). These transformations are the cumulative effect of such ‘unintended consequences’ by social agents, whose practices are endowed with both durable dispositions as well as the necessities and opportunities generated by the specific socio-political moment. The fact that, at least in some occasions, cremations are found in the same pit with inhumations at the Olmo di Nogara cemetery may indicate that the passage from one rite to another was not abrupt, but progressively adopted and integrated with the previous mortuary rite.

So far I have discussed how social practices elicit memories of past experiences from visual imagery. Settlements, buildings and objects are the tangible representation of something that needs to be remembered. In this perspective memory is activated through
the preservation of material culture. In the case of inhumation, also the posturing and adornment of the body, and the placement and the disposition of the artifacts within the graves, may be interpreted in commemorative terms as it enacts remembrance, through the brevity of display before concealment (Williams 2005: 256-257). However, there are practices in which the act of remembering takes on a different form. This is the case of objects destroyed or removed from circulation through the concealed deposits, burials and other forms of depositions such as giving up metalwork in rivers for instance (Bradley 1990, 2002; Rowlands 1993; Fontijn 2002, 2005, 2008; Williams 2005). In these contexts the objects buried or destroyed are remembered in their absence (Küchler 1999: 61). The destruction of objects is commemorated through oral memory, effectively ‘repeating’ the event through recollection of the original act (Bradley 2002: 13). In these circumstances, objects themselves ‘become’ memories and they represent memorized imagery projected to the upcoming future. Küchler’s study about Malangan art in Melanesian society (1987) is very influential in this sense, as the author approached the destruction of sculptures after ceremonial display not in terms of the value given to the object, rather in terms of value given to the memory it generates in its absence, identifying this as a powerful medium for social reproduction.

A similar idea can perhaps be extended to the deposition of swords and spearheads in particular stretches of river or the destruction of objects in the course of cremation rituals during the Bronze Age Italy, for instance. It may be worth noting that, as it has been already mentioned above (2.2), the discard of objects in particular places in the landscape may have marked the passage from one status to another one. More generally, rites of passage such as birth, adulthood, marriage and death involve transformation, that in turn are marked by rites of separation from the old state and rites of reincorporation in the new one (Van Gennep 1960). However, such rites do not only symbolize the passage through subsequent phases, but they have further subtle implications in social terms, allowing the replacement of the old set of relationships with new ones (Brück 2006a: 303); they involve social reproduction. In this perspective the emphasis shifts from weapons symbolizing power and the representation of a “class” of individuals (i.e. members of warrior elites), to the “inter-individual relationships in the construction of social identity” (ibid. 308). Previous scholars have tended to see power as something possessed and ascribed from birth (i.e. as an hereditary institution): this is exemplified in the case study of the sword deposited with an individual affected by poliomyelitis, which would have caused deformities from the birth, and made them unlikely to thrive as a ‘warrior’ distinguished by martial skill (Frontini 2004: 58; De Marinis and Salzani 1997). In contrast, the above
ideas support the view that power was something that needed to be worked at and maintained, and as a such its achievement was favored by the fostering of networks of relationships with others (Brück 2006a: 310).

In the previous sections, I have summarized important new theoretical approaches about the relationship between people and things from the perspective of time. Time has been investigated as an internal and dynamic parameter in both marking the transition through particular states in the individuals’ life paths and allowing social reproduction through a process of remembrance, in which objects played a key role. The following section will now turn the attention on a further element that acquire a particular value in its inter-relationship with past people, namely landscape.

2.4. PERCEIVING LANDSCAPE

The notion of landscape can help our understanding of how places become agents of significance in constructing individual and collective identities. Landscape is the arena where bodily actions and sensorial perceptions of the people take place. People inhabiting landscape engage with it in different ways, which are as diverse as the circumstances which allow such interactions; it is culturally constructed.

On the one hand, different types of landscape offer a different array of resources for providing food, raw materials, which are essential for subsistence, as well as the space for dwellings. In this perspective, people are interlocked with landscape at an everyday scale, performing a sequence of tasks, which create a “taskscape” (Ingold 1993). On the other hand, landscape is the arena for other social activities and as such it creates metaphors for the perception of reality (Tilley 1999: 177). As we have already seen in the case of the *habitus* (2.3), time is the medium for the maintaining and the reproduction of meanings which places produces through their inter-relationship with people. The symbolic perception of place is transmitted through time, drawing on past experiences of bodily activities and gestures, which are re-contextualized in the present lived space. The notion of landscape passes through people orally and as a such, it is open to manipulation and reinterpretation. Memories and emotions remain encoded in the landscape, providing the context for shared social narratives, which are the focus for individual and common identities (*ibid.* 178).

Therefore several features in the landscape were accorded a specific significance in the past, which is at the same time sociological, ideological and political. In this perspective, a
river may represent a natural border, that separates neighbouring communities, but it may also assume specific properties, becoming the *locus* for ritual depositions; a cave is a natural shelter for humans and animals, but it also allows communication with ancestors and the world below; a forest is a source for a raw material and food, but it is also threatening and it requires preparation to go there; particular stones may have played a critical role in claiming land rights, for instance. All these examples show how landscape becomes an important media in interpreting the world.

In this sense, space and natural features do not only form a physical landscape, but they are perceived in a symbolic terms, which represent the ways in which the spatial aspect of the world is conceived by humans. Living in a space can be experienced in terms of physical distance and vicinity, inside and outside. However, the contrasts that the landscape provides are re-contextualized by people within a wider cosmological view, which revolves around a fundamental dichotomy: cosmos and chaos (Eliade 1959). Cosmos is the order created out of chaos at the beginning of time by gods, while chaos is what remained outside the cosmos. By extension, people constantly understand the tension between their orderly world and the uncontrolled in terms of sacred and profane, safe and dangerous, domestic and distant, “we” and “others” (Helms 1993). One example is the settlement, whose fence is a threshold between the profane and the dangerousness on the outside and the sacred, safe and domestic space on the inside. In the Helms’s view (1988), reaching a distant place requires preparation and specific knowledge. As a consequence, the journey “out of there” allows individuals to achieve magical power and esoteric knowledge as well as heroic fame.

Distance is not only horizontal, but also vertical, providing a link between people and the supernatural domain. At this regard, particular natural features in the landscape may be perceived as gateways to other cosmic levels: earth, sky and underworld. For instance, a cave, a rock fissure, a river or a mountain peak allow communication between these different spheres and for this reason they may be treated in a special way by means of ceremonies, offerings and votive depositions. In this perspective, ritual practices are the means by which people mediate between them and the supernatural realm and between their orderly world and chaotic surrounding (the *axis mundi* see Eliade 1959).

All the considerations made so far attempted to highlight the role of landscape as fundamental agent of significance and how natural places may have been perceived and used in the past. The special connotation attached to these places is archaeologically evident through the recurrent association between distinct materials given up in the landscape and contexts such as springs, rivers and caves. This consideration has recently
encouraged discussions, which divert from the traditional analysis of the reasons behind the discarding of objects in the course of the Bronze Age (i.e. Kristiansen 1978; Burgess and Coombs 1979; Gregory 1980; Bradley 1982, 1985, 1988). At the end of the seventies, Bianco Peroni (1978-79) identified the recurrence of some bronze objects, mostly offensive and defensive weapons, in wetland and dryland depositions: rivers, bogs and hill tops. In the last decades it has been recognized that there may have some normative associations between certain objects types and specific contexts and locations.

In the case of single finds, Fontijn’s study of the southern Netherlands metalwork (2002; 2005; 2008) revealed a constant link between weapons and their deposition in rivers, streams and marshes, suggesting that their presence in the archaeological record is deliberate. In particular he referred to the evidence of swords usually connected with major rivers, while spearheads and axes appear confined to the edge of the settlements. Recently the presence of different kinds of deposits in association with either different types of environment at Flag Fen or different water bodies in the English Fenlands has been investigated by various authors (Bradley 2000; Bradley and Yates 2010a). Meanwhile, informative ways of studying metalwork deposits on the ground have been presented in a later co-authored paper which argues that the deposition of bronze artifacts was governed by strict conventions (Bradley and Yates 2010b). Fascinatingly, Turner (1998) linked the liminal status conferred to fragmented objects in mixed hoards to their position outside the domestic space.

Also in the case of rock art, detailed studies revealed that the depictions are fixed in particular points in the landscape: some rocks are in the immediate vicinity of watercourses, or mountain tops, some others reveal a close link to springs or to boundary zones (i.e. the carved halberds at Termen, whose etymology recalls its Latin origins: *terminus* means “boundary”, “limit”) (Fossati 2001:107). These particular natural locations appear associated to distinctive carved motifs, which represent some metalwork types and exclude others. All these motifs may be diagnostic of gender: for examples shovels associated with looms may identify females, while weapons may have served to signal male participants at the rituals. Therefore, the experience of places may have been markedly gendered, determining which spaces were accessible or forbidden and by whom (ibid. 108-9).

All these studies attempted to demonstrate that selected objects were deposited in particular significant places, while some others were unacceptable in the same locations. In this perspective, the distribution of different materials in the landscape might have represented a non-random pattern. The particular link between objects, places and
particular sections of the communities is also strengthened by the evidence of carved art. These patterns are something I will investigate in detail in Chapter 5 and 6.

### 2.5. CULTURAL BIOGRAPHIES OF OBJECTS

In the previous sections I have discussed how people are closely intertwined with places, time and objects, and how this involvement helped reproduce and represent social relationships within the community. I have also mentioned that objects are meaningful, because they are strategically employed by people in different contexts of interaction and – due to significant or long-lived histories – may even have been perceived as having identities themselves.

Like persons, objects do not have a fixed status. One shortcoming of typological schemes is that they classify objects at the moment when they entered the archaeological record: they are not able to investigate the past of such artifacts. However, typologies can be an important source if complemented with other methodologies. Edge-wear analysis and contextual archaeology have been employed in this research in order to explore the potential significance that objects had to people who used them. Edge-wear examination revealed that objects cannot be fully understood in terms of a snapshot in their lives; rather they passed through a more or less extended life-cycle, ranging from production, circulation and discard. During their use-life objects are subjected to transformations and they accrue different meanings, which are situational as they depend upon particular circumstances bonded in time and space. The accumulation of meanings during life may be regarded as a cultural biography (Kopytoff 1986). In some occasion traces of past events are visible on the surface of the objects. However, the degree of damage and wear is only one way to understand their life histories, for also the context of performance, for instance, produces object biographies which may not leave such evident traces on them. Nevertheless, this thesis argues strongly that the biographies of objects are multiple, and it will utilize different methods of analysis to unpick some of these histories.
2.6. OBJECTS AS “SOCIAL ACTORS” AND THE PERFORMANCE OF MEANINGS:

The following section will be devoted to the exploration of a further parameter, namely the involvement of things with persons. First, it is important to draw a distinction between concepts of the gift and the commodity, when dealing with non-modern societies.

For modern Western societies, where objects and people belong to two separate poles (Kopytoff 1986: 64, 84), people are individualized identities, who have rights over things they possess. Contrarily, in some non-modern societies, individuals are conceptualized as fractal, made up by body, mind, soul and substances (Fowler 2004). They come into being through the interaction between them and the others and between the community and the supernatural world (Bazelmans 1999). Just like human bodies, objects too can be multi-authored, formed by different materials (substances), which give to them particular qualities, and body parts; like persons, they participate to rituals and ceremonies and they pass from hand to hand and from one context to another (Battaglia 1990); like persons, their constitution is fully relational (Thomas 1996: 73; Fowler 2004: 62-63).

In a gift-exchange system some things, which are like persons, may have particular meanings. Exchanged gifts retain parts of the previous owner and therefore the act of giving objects can be equated with giving parts of oneself to an other (Strathern 1988: 192; Mauss, 1990: 46). In this perspective, the recipient continuously deals with parts of the donors, “anonymous or otherwise” by virtue of exchanged objects, which in turn become the media to create, maintain, manipulate and exhibit a network of social relationships (Strathern 1988: 193). The participants in the gift exchange system are not only individuals, but also the community as a whole, not only the living, but also supernatural entities so that objects carry the totality of this broad involvement (“the society in a broad sense”: Bazelmans 1999: 68). It is in this sense that things are regarded in terms of inalienable possessions; they become powerful because of the meanings objects take on through time and their force is legitimized by both past connections with others and relationships with the supernatural world; therefore their power is not bonded in the present, but extends beyond death (Weiner 1992: 42; Bazelmans 1999: 67).

The uniqueness of these objects distinguishes them from other ones; commodities for instance. Different from gifts, commodities are alienable and their relationship with the owner terminates when the transaction is completed or when it is consumed (Fowler 2004: 59). Unlike objects in the gift exchange system, commodities circulate within an economic
domain. Nevertheless, both gift and commodities may shift from one status to another during their life-path (Kopytoff 1986).

We can now turn attention to the implications that these theoretical approaches have when dealing with the role of Italian spearheads in the Bronze Age. The variation in the distribution of the material residues, namely different forms and styles, has been traditionally interpreted in terms of archaeological cultures (Childe 1956). Nevertheless, archaeological cultures as they are classically conceived reflect monolithic societies, neglecting the fact that they are complex and dynamic constructions. In fact, patterns of styles and different kinds of artifacts, imbued with elements of multiple origins, may have been employed as a symbol of differentiation and belonging, in order to communicate different facets of identity (Gosselain 2000: 209; see also Hodder 1982 b). Accordingly, the fact that similar types of spearheads ended up in different contexts in distant geographical areas, may reflect different ways in which objects mediate particular relationships within different communities and between individuals. In order to serve this end they must have been charged with specific meanings.

An interesting example is the unique deposit of decorated spearheads found in an extraordinary hoard attributed to the early Middle Bronze Age… unknown in other coeval contexts (Cascina Ranza: Appendix 2: 1). Yet in the following Middle Bronze Age phase, a very similar spearhead has been found, without such decoration. So why decorate? In one era, such decoration may not simply have had aesthetic importance but acted as a strong symbol of belonging to a particular group: reminding people of situationally specific identities or forging a sense of community amongst a particular age-set or group (see also 2.2). In the latter era, decoration simply may not have had these associations, yet the form of this object continues. Decorative motifs, like objects, may be used strategically in specific contexts of interaction, but they are discharged from their temporary meaning soon afterwards. Therefore objects change their status through time.

I shall now turn the attention on how objects become important in different cultural registers. Gosden and Marshall (1999: 170-172) give an interesting insight into this theme through their work on cultural biographies. Based on ethnographical study, they have demonstrated that some objects can be regarded in terms of being “social agents”. This is the case in their study of whale’s teeth (tabua) from the “Pitt Rivers” Museum in Fiji. Tabua were generally cradled in the hands and during the nineteenth century they were exchanged as ritualized currency between chiefs, gods and people. Today they still circulate in ceremonies. Tabua accumulate meanings as they pass from hand to hand. As a
consequence their value increases as they age. They are powerful because of meanings they carry themselves and they are venerated independently from the contexts in which they are employed. The authors linked whale’s teeth with “generalized biographies”, because while the dark color that occurs through time stands for many owners, they do not have “specific remembered histories” (“specific biographies”: *ibid.* 171). The same concept may apply to the aged spears picked up by elders and young boys among Maa-Speaking Pastoralists (Larick 1985). For the individuals living alongside others, worn spears draw on pieces of a memorable past. Meanwhile, in the case of non-warrior young boys they project the society’s expectations in the future. Therefore worn spearheads can be regarded as social actors, which retain meaning themselves.

In opposition to the latter, Gosden and Marshall placed objects whose meaning must be enacted through performance in specific circumstances (1999: 176). Turning attention to the Bronze Age, these ideas may be of some interest. This latter principle may be the case for objects taken or brought from afar. Here, the geographical distance interrupts all relationships and ties with the previous owner. Concurrently objects lose their original meaning. However, the particular material they were made of, the shape and the style will all contribute to make them recognizable as foreign artifacts and exotica. Alienated from their original context, they are then reinvented and transformed in the new one.

In the same way, objects may perform meaning in some selective depositions. Considering the deposition of the Bronze Age spearheads in Italy in selected locations, it may be suggested that the practice reflect an awareness of the places where they were forbidden (i.e. graves for instance) or potentially permitted (i.e. settlements, hoards and natural locations), according to the shared-values they embedded. To give some examples, it may be possible that a spearhead did not end up in Middle –Recent Bronze Age cemetery because as a hunting weapon it carried other connotations: it was part of peoples’ experience of the domain of the wild, in which people learned how to kill. This may have bestowed upon spears a rich symbolic meaning, redolent with violence and danger. It was one of the first weapons with which young individuals would have been trained in order to both acquire basic physical skills and to fulfil the social roles which groups or the whole community shared (see for example the *Tabulae Iguvinae* in Martinelli 2004: 283-291). As such its exclusion from funerary practices may have deliberate: the spear not only brought with it this ambiguous symbolism but may have had this key relationship with a youthful age-set, and was closely identified with rites of passage. As such it may not have been an appropriate weapon to inter with fully adult, mature members of that group, who identified more with the sword as a martial object of authority and power. It may be useful to note
here that social tension does not need to necessarily horizontal conflict (i.e. competition between emergent groups), rather it may be understood in vertical terms, namely a generational contrast between different age-grades as often ethnographical studies seem to indicate (for spearheads in particular see Larick 1985; Hodder 1982b).

The fact that spears entered the archaeological record at different stages in their life-cycle may indicate, though not always, that their life-paths were not predetermined and they did not rely upon specific expectations (i.e. the belief that all the spearheads must be used and discarded in a specific manner). Contrarily, in the case of over-sized spearheads, finely finished and decorated for instance, we may suspect that they did not serve functional roles. Accordingly, they may have been forged for ceremonial events in order to accomplish certain shared expectations.

In all the cases discussed above, it seems evident that objects work as agents of significance because of the meaning that people give to them.

2.7. FRAGMENTATION AND ENCHAINMENT

Fontijn (2002:26) highlighted the difference between commodities and “valuables” in order to strengthen the idea that, unlike “scrap hoards”, selective depositions had an added value, namely their distinctive meanings, and that by virtue of those specific objects were selected and purposefully deposited in particular locations. In contrast, objects which did not possess their particular meanings anymore, might have become suitable for breaking down into smaller elements: collected in the form of fragments in such hoards which represent “the other end of the continuum” (ibid.: 26). Fontijn provides us with an interesting explanation of how we can use theoretical or conceptual ideas to understand the archaeological record.

However, the edge-wear observation presented later on in this study (7.8) will reveal that this idea may be subject to qualification or even reinterpretation, at least in some occasions. The question to be asked here is whether the objects collected in “scrap hoards” or more in general in “utilitarian hoards” truly represent an end (which in the case of scrap hoards is only a temporary end, with fragments awaiting recycling into new culturally conceived forms). How are we to explain the phenomenon of “utilitarian” hoards in terms of extension beyond a physical end? If a continuum exists how does the transmission of meanings work?

The nature of the questions is rooted in a series of recent works, which deal with this issue in detail. All these studies principally revolve around either the wanton violence
which these objects and pieces were subjected to (Turner 1998; Nebelsick 2000) or the imbalance between their separate components in the so-called “scrap hoards” (Bradley 2005: chapter 5) or the role of broken pieces in terms of “enchainment” (Chapman 2000). All the authors converge in suggesting the intriguing and ambiguous aspect of fragmentation. At least in some cases concerning the Final Bronze Age mixed hoard in central Italy, their ideas may provide useful insights into the interpretation of the macro observation of the surface of the spearheads sampled in this study.

Independently from the traditional interpretations, which see these assemblages as the accumulation and storage of bronze artifacts either in terms of scrap or merchant or pre-currency hoards (Contigliano, Rimessone; see Pellegrini 1995 for a different view), it seems likely that, at least in some occasions, some parts of these objects were purposely retained, perhaps as a token of a particular event. This may also apply to the objects and pieces of human bones, which circulated as parts of Bronze Age funerary rites (Brück 2006 b). Some cases which in my opinion may better reflect this are: the depositions of fragments of swords on the ground level of the Recent Bronze Age cremation cemetery of Casinalbo (Modena – Emilia Romagna; Cardarelli et alii 2006), missing fragments of spearheads in cremation graves, and also pieces of human body in the votive deposition in a rock fissure at Oggiono-Ello (Lombardy; Appendix 2: 3). I have already argued that objects become powerful because of the evocative histories they acquire through time. Having stated this, it becomes easier to understand how the “afterlife” of these objects may have continued to give “material form to interpersonal relationships” (Brück 2006 b: 91).

If fragments as pars pro toto are the vehicle for memories and therefore they enchain people which share the same values, complete objects may denote a different set of values. Complete objects or intact gifts enable a link between people that is circumstantial, thus bonded in a specific place/time. Therefore, each relation that it generates is differentiated as it depends upon diverse interests and perspectives (Strathern 1988: 192). In his study on fragmentation in the prehistory of south-eastern Europe, Chapman (2000: 45, 108-112) stated that complete items or set of objects in hoards symbolized social integration (i.e. set of objects drawn together from different sources or objects that better express individual, household or community values) and as such they are in opposition to fragmentation. Accordingly, the author identified a sort of tension between fragmentation and integration in some Copper Age figurine sets, within which parts of figurines were “deliberately removed to extend through enchainment the social relations of those involved in the creation of these Copper Age set” (ibid. 111).
The ambiguous connotation of fragmentation in “utilitarian hoards” and the violent treatment inflicted upon some objects in these deposits challenge the traditional dichotomy between “utilitarian” and “ritual” hoards so that these assemblages can be read no longer in terms of fragments awaiting recycling.

2.8. FONTIJN’S COMMUNAL IDENTITIES AND PERSONAL IDENTITIES

The relationships embodied in artifacts are further discussed by Fontijn (2002: 27), through the notion of what he calls “communal” identities. In the author’s view, there are some objects that do merely reflect neither the functional role they may have been intended for, nor the possession of a single purpose. This observation seems significant for the implication it may have in the present research. Later on in this study I shall discuss the evidence of what I suppose to be the deliberate deposition of spearheads in specific areas of a settlement in northern Italy (Chapter 5.1). If this is the case, the act of depositing them may allude to the strategic use of objects which represent beliefs and values shared by the communities as a whole. The same consideration may be also extended to particular Bronze Age hoards or multiple depositions, which become significant in terms of representing group, household or community identities. It is in this perspective that Fontijn envisaged the need to review the notion of “personal valuable”.

I have already shown how in non-modern society the concept of personhood is fully relational. We can conceptualise the social persona as fractal and made up by different components. I have also illustrated that in gift exchange system, people exchange part of themselves by virtue of the objects they give away or obtain (2.6). Particular objects become so charged with significance, they share metaphorical links with people and become vehicles in constructing the self (Brück 2006 a). Once again the example of the spearheads among Maa-Speaking Pastoralists (Larick 1985) seems important. While fashioned specimens confer warrior status to the adult males, worn spearheads are confined to old people, metaphorically representing their non-warrior status. It emerges clear that these objects with particular connotations, which are exchanged between different age-grades, represent constituent parts of the social persona. They converge together in forging a temporal individual identity, which is not self-contained, but is constructed in relation with the others (Brück 2006 a: 310; see also the relational identity of lords and retainers in Bazelmans 1999). This idea seems to have a particular
significance also in graves, within which objects are drawn together by the mourners in order to represent the deceased as they want him/her to be.

In some contexts, the coming together of these different constituent components promote that identity, but at other moments, we may witness the falling apart or negation of that identity. For example, as Fontijn has suggested, a spear which was once proudly borne as a symbol of warriorhood, may then be given up to become part of a large deposition of weaponry in selected natural places (rivers for instance, Fontijn 2002, 2008): marking the end of that role as well as the relationship between the individual and their weapon.

2.9. WARRIOR IDENTITY

So far, I have shown how objects are meaningfully employed by people in order to forge personhood, using a range of archaeological and ethnographic case studies. I have also explored theoretical approaches which focus on the temporality of people’s identities. This section will deal with the construction of warrior identity. Although it is not the principal aim of this research, it may be worth noting that warrior’s paraphernalia has been often linked to the concept of warriorhood as well as male identity and dominance.

By the Middle Bronze Age onward (ca. 1700 BC) the development of bronze technology brought to the efflorescence of a specialized set of weapons. Unlike tool-weapons or weapons-tools of the previous periods (Chapman 1999), swords, spearheads and defensive armour were created and designed in order to both damage others and defend oneself from potential opponents. As a consequence, these objects are often employed by authors as principal evidence for the reconstruction of historically specific military equipment, changes in war tactics (i.e. Snodgrass 1964; Harding 2000, 2006, 2007; Martinelli 2004; Pacciarelli 2006), but also warrior identity, both in the sense of social (i.e. warrior society) and economic status (i.e. warrior aristocracy) of the individuals, who use them (i.e. Kristiansen 1978; Härke 1990; Cupitó and Leonardi 2005a, 2005b; Vandkilde 2006; Hårde 2006). This is because warriorhood represents a specific social identity (Vandkilde 2003: 139) and, as in the case of other social identities (i.e. Sørensen 2000), material culture is essential in its creation: weapons and armour in particular, literally dress the warrior, functioning as visual means of distinction between social units. They also make the body perform or move in certain ways, trained to the heft and feel of such weaponry (Harrell 2009).
On the one hand then, weaponry may be the manifest expression of warriorhood. In this perspective, weapons placed with the deceased or given up in the course of ceremonies, are arguably precious archaeological sources. They are the metonymy of warrior’s values such as prowess and bravery, but also fame and power. The notion of being a warrior is not only identified by weapons, but it also extends to the bodily treatment, in which someone adopts particular demeanors (ferocity, bellicosity) but may also prepare and present their body through corporeal regimes of care, adornment and clothing. This is the concept of the “warrior beauty” in Treherne’s terms (1995) which makes the individual not only be, but also appear and become a warrior, through a temporary transformation of the self (Fontijn 2005: 152). Therefore the warrior ideology is an aspect of the collective ideology and as such it needs to be created, maintained, reproduced and exhibited to the whole community. Inevitably it arises from and is intertwined with other social identities (age, gender, ethnicity etc.). In this perspective being a warrior is not a fixed and universal identity; rather it depends on time and context (Vandkilde 2003: 139).

Warriorhood is intimately connected to warfare. Toward the end of the twentieth century, archaeologists promoted the warrior tale to the detriment of addressing the realities of violence against other human beings. Warriors are described as Homer’s heroes, namely aristocrats, who duelled amongst themselves for honour and glory. Only recently, Keeley’s publication de-contrasted the popular myth of the “peaceful savage” (1996). His pioneering study was followed by influential works, which attempted to discuss warfare and violence within archaeology, accounting for them on the basis of specific sets of evidence: settlement studies, osteological evidence of trauma, weaponry and iconographic representations of martial scenes (for a comprehensive literature review see Vandkilde 2003: note 2; Thorpe 2005; Parker Pearson 2005). Warfare requires cooperation as successful results depend upon collective actions. On the one hand, it fosters inter-social relationships in order to recognize themselves as warriors among the group and within society as a whole. On the other hand, it provides an important occasion and arena in which to enhance personal qualities, glory and honour. Drawing on Vandkilde (2006: 396), being a warrior represents a social identity that is “individually felt and collectively shared”.

In the author’s opinion, this can be translated as relational quality which is dependent upon other identities, such as age, gender, ethnicity and class for instance. Meanwhile, as with other social identities, warriorhood may represent a particular phase in someone’s life-cycle and as such it must be continually maintained and renegotiated. Vandkilde draws a distinction here between non-institutionalized and institutionalized warriorhood.
The former is represented by bands, whose access is regulated by the fact of being male (such as some societies in Amazonia and New Guinea: *ibid.* 397). They are temporary organizations which only exist as the needs arises. Contrarily, the latter constitute durative institutions, internally regulated by gender, age and sometime class. They are a sort of fraternity within a segmentary society, whose professional members are kept together through relationships which go beyond kinship ties. The access to the warrior institution can be regulated by age (young males become warriors when they pass from boyhood to adulthood) in order to organise its internal structure. Age-based war bands are competitive, but are not part of elites (*ibid.* 399). Warrior organizations may be also regulated by personal qualities as well as rank. The latter represent warrior groups, where access is limited to professional warriors members of elites. In this scenario, warrior identity is inherited at birth. Such an organization is likely to exist in chiefdoms and aristocratic states (*ibid.* 400-401). However, all too often, warrior groups are traditionally viewed as a business of men, ignoring the direct and indirect involvement of female in war activities (Stoodley 1999; Vavouranakis 2009).

Hunting is another activity which is part of a broader shared ideology of masculinity and martiality. The major idea behind this assumption is the fact that all the virtues which define a “skilled hunter” as well as the tactics developed to capture a prey could have been employed in warfare. Although, hunting played only a minor role in the subsistence economy in the course of the Italian Bronze Age (Cardarelli 1992, Marzatico and Tecchiati 2002), its importance in the field of social and ritual practices cannot be neglected. For example, Hamilakis (2003) discussed hunting in Neolithic and Bronze Age societies as an ideological resource for the achievement of power: in a period during which gender contestation increased as well as the competition between male individuals, there was the need of new social arenas in order to display the ability and the skills to compete for authority and to help define the immediate social world against “otherness” (*ibid.* 244). In addition hunting also provides the best sources of metaphor for war (*ibid.* 243). It is in this perspective that the practice of hunting plays an important role in male rites of passage in order to master technical and symbolic knowledge (Martinelli 2004: 279-290). Accordingly some hunting scenes depicted and incised on rocks in Valcamonica may be also interpreted in this sense (IV style: Iron Age, see De Marinis and Fossati 2004: 360). Therefore, the martial ideology involves the entire life; it goes beyond the temporary stage of warriorhood that too often seems to rely upon the association warrior = weapon.
2.10. THE OBJECT’S LIFE CYCLE

I have already mentioned that objects accrue meaning through time. The following sections will be devoted to explore which are the principal stages in the object’s life-cycle and how they become visible in the study of the archaeological record. Indeed, although I am aware of the importance of the production as the starting point for the object’s biography, this aspect of the biography is not the central aim of the present study. Instead, this thesis will focus on circulation, use and discard. In order to understand why metal objects are held in high regard, we should explore the distinct innate qualities of bronze, and the consequences of the use of this substance.

The properties which made possible the rapid and widespread appearance of stylistically distinct metalwork in distant regions, arose from the malleable and transformational nature of bronze. The raw material could be transformed into a culturally conceived shape. At the same time a worn object can be re-melted in order to receive a new shape. In this sense, bronze behaves differently from any other material in the prehistoric repertoire (i.e. wood, flint, bone) since it allows regeneration. Blacksmiths have the skills to master this process and for this reason they must have occupied a powerful position within the society; however, the ritual knowledge and activities of blacksmiths were also greatly feared, being considered a potential source of danger because they control the natural forces intrinsic to the material (Budd and Taylor 1995).

Bronze has also practical qualities. Comparing with copper for instance, alloys increase the toughness and fluidity of the object; the additives make copper more long-lasting and workable as well as repairable, in order to maintain their effectiveness. Moreover, a worn object that becomes unusable can be re-melted and acquire a different shape.

Colour, lustre and sound can be regarded as the key aesthetic qualities of bronze. Depending on the composition of the alloy, the colour of the bronze considerably changes (i.e. from red to gold) (Kuijpers 2008). The colour can be maintained by polishing the surface of the objects, in other words, this metal requires care from humans to bring out or maintain some of its qualities. When maintained in this fashion, bronze produces particular colours and sound, which may become a visual and auditory device. These physical properties of the bronze may have been imbued with symbolic and ideological factors, which were perpetuated through metallurgy. On the other hand, the different techniques used to decorate an object brought to the development of a complex stylistic repertory, which may have played an important role as constituent element of identities.
The fact that objects and tools used in the production of bronze artefacts have often been found in settlements indicates that the metallurgical activity was carried out in situ. Interestingly, I noted that in some cases stone moulds found in settlement sites have exact bronze counterparts in the neighbouring settlement (cf. Appendix 2:20/1). This may suggest that while the circulation of finished products is very likely, also the exchange of moulds between smiths should not be neglected (Fontijn 2002: 30). In both the case the transmission from place to place of foreign objects as well as technologies, would have helped integrate new elements into the existing system.

As far as their life-span is considered, I have already mentioned in the previous sections that it is precisely during their life-use that objects accrued complex meanings. Bronze Age spearheads circulate and they are exchanged over more or less extended periods of time. Archaeologically some clues are provided by the fact that sometimes metal artefacts are clearly not local and come from afar (cf. Chapter 4.4.3 and 4.5). Regardless of the ways in which they reach distant places (i.e. gift or trade exchange), their original status can be manipulated or reinvented in the new context, by virtue of the fact that they are recognisable as exotica. This awareness may confer upon them a highly regarded status in particular networks of circulation. In some instances, metallurgical analyses also provide useful information about the place where they originated.

Use is a fundamental part in the object biography. The edge-wear observations conducted in this research (7.7-8) will prove key to analysing these aspects of spearheads during the Bronze Age. Although some of them entered the archaeological record undamaged or slightly used, some others show traces of extensive maintenance works as well as repairs. Some other specimens bear traces of concussive marks, indicating effective use (i.e. in combat, hunting or training sessions). However the most interesting body of evidence come from their treatment before deposition.

Traditional models equate the end of an object’s use-life with the moment of recycling, but certain artefacts were evidently pulled out of this sequence and selected for deliberate deposition. Spearheads and set of metalwork types were found in settlements and in particular locations in the landscape, in the form of single and multiple depositions or in hoards. Few spearheads ended up in graves toward the end of the Bronze Age, indicating a change in the attitude toward metalwork deposition, compared to the previous period.

Edge-wear examination reveals that the deliberate deposition of spearheads involves specimens which are actually removed from circulation at potentially any stage in their
life-cycle. The ambiguous character of the metalwork that makes up these deposits seems to be strengthened by the particular treatment of objects before deposition. Accordingly, the traditional dichotomy between utilitarian and ritual hoards is no longer satisfactory ways of describing differences between these deposits.

The concept that some sorts of rituals were also required even for so-called “scrap” hoards, requires a definition of the concept of ritual, for the purposes of this study. The concept is debated by Bradley (2005). Rituals are generally thought to be linked to religious beliefs and supernatural entities, so that in order to enter in contact to them, people need formalized procedures. Instead the author believed that:

“It is participation and commitment that count far more. Once it is accepted that ritual is a kind of practice – a performance which is defined by it own conventions – it become easier to understand how it can occur in so many settings and why it may be attached to so many different concerns” (ibid. 33).

In this perspective, ritual is a pervasive practice: an action rather than a system of communication, which permeates the everyday life.

This chapter has discussed the premises on which this study is based, and it has reviewed the major theories, concepts and approaches which underpin the analysis of the archaeological material. The next chapter will outline the methodology applied to this research.
CHAPTER 3. METHODOLOGICAL APPROACH: PROBLEMS AND
POTENTIALITIES

(All the findspots mentioned in the text are distinguished by a number in a bracket, that corresponds to that assigned in Appendix 1. Accordingly all the geographical and bibliographic information will be included in the Appendix and not repeated here. In the case of spearheads from contexts selected for use wear-examination, the number used will be that given to it in Appendix 2)

In the previous chapters I have illustrated how the study of the meanings of objects is still weak in the Italian scholarship (Chapter 1). Subsequently, I have outlined the theoretical approaches that may be necessary to tackle the research questions I have about this material (Chapter 2).

This research will identify and analyze the distribution of different types of spearheads over the Italian peninsula (Chapter 4), the association of spears with other metalwork types (Chapter 5) and their contextual variation (Chapter 6) as well as the macro traces of wear, repair or damage left on a sample of Bronze Age spearheads (chapter 7). I hope to demonstrate that time is a significant factor in the use-life of these artifacts, and I will particularly emphasise micro-histories that are worth investigating in order to understand how people made use of objects.

<table>
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<tr>
<th>ITALY</th>
<th>TRANSALPINE AREA</th>
<th>AEGEAN</th>
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<tr>
<td>PERONI* (1986); GUIDI 2005</td>
<td>CATTANI** (2009); MIRRI (2010)</td>
<td>REINECKE</td>
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<tr>
<td>2300 BC</td>
<td>2300-1800 BC</td>
<td>BRONZEZEIT A1 (A2b) EALY HELLADIC III</td>
</tr>
<tr>
<td>1700 BC</td>
<td>1900-1650 BC</td>
<td>BRONZEZEIT A2 MIDDLE HELLADIC</td>
</tr>
<tr>
<td>MIDDLE BRONZE AGE 1</td>
<td>1850-1550 BC</td>
<td>BRONZEZEIT B1 LATE HELLADIC I</td>
</tr>
<tr>
<td>MIDDLE BRONZE AGE 2</td>
<td>1550-1450 BC</td>
<td>BRONZEZEIT B2 LATE HELLADIC II</td>
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<td>1450-1350 BC</td>
<td>BRONZEZEIT C LATE HELLADIC III A</td>
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<td>1350-1250 BC</td>
<td>BRONZEZEIT D LATE HELLADIC III B</td>
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<td>1200 BC</td>
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<td>FINAL BRONZE AGE 3</td>
<td>950-750 BC</td>
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* In Peroni’s chronological scheme the Final Bronze Age 3 covers a period between 1200-950 BC
** The authors base their scheme on the data available for northern Italy

Table 3.1. Chronological sequence of the Italian Bronze Age, compared with the Transalpine area and with the Aegean.
It is now important to consider the methodological tools that I will use in this research in order to identify particular life-cycles. I shall discuss to what extent this corpus of material is a representative sample (3.1) and illustrate how the data was collected and processed in order to produce significant patterns (3.2). Subsequently, I shall clarify how some concepts (i.e. dry and wet sites, hoards and multiple depositions etc.) will be applied in this work (3.3.1-4). In conclusion I shall discuss some of the problems and the potentialities of the present research (3.4).

All the spearheads included in this research are from Italy and number 486 in total. In addition, I have sampled 194 for macro-edgewear analysis. They cover a chronological length of time that spans from the Middle to the Final Bronze Age (Table 3.1). This analysis is carried out within the current debate on the definition of the chronological sub-phases of the Italian Bronze Age on the basis of the new stratigraphic evidence and radiocarbon as well as dendro-chronological dates (i.e. Guidi and Whitehouse 1996; Pearce 2000; De Marinis 2002; Cattani 2009; Cattani and Miari 2010; Bernabò Brea et alii 2010). However, this issue does not overly concern the study, as I shall limit myself to saying that I will use Peroni’s chronological sequence, that is still widely used amongst contemporary scholars. In a recent study, Peroni’s chronology did not diverge greatly from that of Guidi (2006), suggesting it is still current. However, on the basis of new data, it is now generally accepted that the end of the Italian Recent Bronze Age may extend to the first half of the twelfth century BC (ca. 1150) (Cattani and Miari 2010).

3.1. ACCURACY OF THE DATA

Turning attention to the circumstances of the recovery of the corpus of spearheads (Table 3.2), I have identified different categories of context. “Construction” mainly concerns any building activity (i.e. construction of new roads, bridges etc.), while “Agriculture” predominantly includes ploughing and any work related to the preparation of the field for agricultural purposes. The “Old Excavation” heading refers to all those materials which have been collected without proper scientific rigor, so that there is likely to be a lack of detailed information about its stratigraphic association with other artifacts (i.e. Belardelli 1991-1992). In one instance, the spearhead from Boccazzola Vecchia di Poggio Rusco (3), found during an unauthorized excavation, was among a group of burnt objects sequestrated by the Soprintendenza Archeologica of Lombardy in 1977 (Tosatti 1984: 169). However, recent revisions of old excavations are also available in some cases (i.e. Belardelli 1998).
“Quarrying” includes the extraction of materials for construction for example (clay, gravel etc.). Hoards in particular have been found during quarrying works, which in some instances were carried out near to rivers and correspond closely to the position of ancient paleo-channels (i.e. Cascina Ranza hoard: Appendix 2: 1). The vast amount of materials from pile-dwelling sites on the shore of lakes is mainly attributable to dredging activity (see below). Meanwhile, a great number of spearheads were donated to or acquired by museums. However, the “Museum collections” heading also includes objects previously owned by antique dealers or collectors, who built up personal collections, that were eventually donated to museums. A conspicuous number of spears belonging to museums have been recently published, providing greater accuracy to part of the sample from the ‘old collections’ (i.e. Marzatico 1997b, Lavarone and Zampieri 2000). Spearheads from recent excavations and surveys are fortunately frequent. The recent archaeological campaigns conducted with scientific rigor allow analyses and interpretations of the data available (i.e. the cemetery of Morano sul Po-Piedmont: Venturino Gambari 2006). The archaeological contexts firstly detected in the course of surveys and subsequently subjected to rigorous excavations have been gathered under the “Recent Excavation” heading.

![CIRCUMSTANCES OF THE RECOVERY](chart)

Table 3.2. Methods of recovery of Bronze Age spearheads

As far as the spearheads in the sample are considered (Table 3.3), information about the circumstances of recovery have been recorded in the majority of the cases. A conspicuous number of specimens from settlement sites do not often provide useful information, due to the date of their discovery and the nature of the process involved. The majority of them were...
found in Middle-Recent Bronze Age banked and moated terramare sites, unearthed in the central Po Plain in the course of the nineteenth century, following the extraction of marl: a lacustrine deposit used for fertilizer. No detailed records were always kept for the objects extracted from the marl. Many of the examples from pile-dwelling sites are similarly problematic. In the case of Peschiera (Veneto) for example, the Austrians carried out works to deepen the harbour and the relative dredging operations led to the recovery of a vast array of material remains (1851-1860) (Candelato and Residori 2004). Moreover, the lake shore captured the interest of amateurs and collectors and a vast amount of material was literally fished up and collected from the bed of the lake (see Appendix 2: 3.1. Verona). Unfortunately, in all the aforementioned cases the extensive works caused the depletion of the archaeological deposits.

A different situation is that of the site Viverone-Emissario. It is placed on the shoreline of lake Viverone, a huge morenic lake in northern Piedmont (Turin). In the seventies, an amateur diver, G. Giolitto, discovered some underwater sites and recovered thousands of ceramic shards and around two hundred bronze artefacts; these first discoveries were followed by systematic archaeological campaigns which were directed under the auspices of the Soprintendenza Archeologica del Piemonte and by the scientific direction of L. Fozzati (for exhaustive bibliographical references see Rubat Borel 2010: 378).

A number of spearheads from graves and hoards was recovered during quarrying (i.e Tomb of the Cava Manzoni-Lombardy: Appendix 2: 6/2), in old excavations or in
construction works (i.e. Piediluco hoard-Umbria: Appendix 2: 38). A conspicuous number of specimens was found during recent surveys (i.e Frattesina settlement and hoard 4–Veneto: Appendix 2: 34, 35) while other specimens were unearthed in the course recent systematic excavations (i.e. Pila del Brancòn hoard-Veneto: Appendix 2: 30). Among the “Chance Finds” I have included the spearheads found in circumstances which do not fit any of the categories mentioned above. For example, the hoard of Limone (Appendix 2: 41) was found accidentally by people who were searching for a typical stone used by tailors for marking-up cloth (perhaps steatite?).

3.2. TYPOLOGY AND EDGE WEAR STUDY (APPENDIX 1-2)

Many of the spearheads considered in this research were previously reviewed in my degree thesis, subsequently published in 2007. At that time, I classified 311 spears, which were collected following an intensive survey of the literature available. Since then, the body of the Bronze Age spearheads has dramatically increased due to the contribution of new publications. In addition, it has become possible to examine many of these examples first-hand, in their museum setting: an undertaking not possible in the original thesis. My previous work mainly consisted of a typological classification that predominantly relied on line drawings. It made also use of statistical-combinatorial analysis in order to identify variation, creating types and sub-types. This enabled me to identify the most relevant features of their shape that were significant for the classification (length of the socket, width of the blade etc.) (for more details about the construction of the typology see Chapter 4). For the purposes of this thesis, however, this typology has been revised in light of the results of the macro-wear observations, which have helped me refine which type a spearhead belongs to. Accordingly, some spearheads have been re-classified, and I have identified broader categories which allow for internal variation, and greater change over time within a single type. The purpose of refining and revising this typology was to understand general trends and changes in spearhead designs.

The typology of the Italian spearheads adopted in the present research is described in detail in Appendix 1.1, followed by tables with representative spearheads for each type (Appendix 1.2). For a better understanding, the first table is a tree-diagram that shows the hierarchical arrangement amongst the variables (Appendix 1.2: Table. 1). The full list of the spearheads per phase and their geographical, chronological and contextual information are given in Appendix 1, whose Excel spreadsheet contains: (1) number of the findspot in ascending order; (2) the type they refer to; (3) name of the findspot; (4) the region where the
findspot comes from; (5) the chronology of the spearheads, obtained by either the study of the association or typological information (in the case of single finds or spearheads with no provenance); (6) the environmental context of the findspot (wet and dry) and the natural features with which they are associated (i.e. river, lake, cave, etc.); (7) the number of spearheads recovered in each context; (8) the numbers refer to that given to the contexts selected for the macro edge-wear study (see Appendix 2). (NB due to the fact that that the spearheads sampled for this aspect of the thesis are drawn from central and northern Italy, some cells in this column remain blank); (9) the bibliographical reference refers to the work in which spearheads have been originally published or other key publication.

Chapter 4 is mainly devoted to a discussion of how different patterns of spearhead designs changed over time and in different geographical zones. The aim of that section of the thesis is to evaluate what these distributions may have meant in terms of improvements in the technological effectiveness of these weapons, but also in terms of cultural and group identities. In this sense, typology is an important aspect to consider when evaluating relationships between spearhead types and contexts of deposition.

Out of a total catalogue of 486 spearheads, I then selected those specimens which could be subjected to macro edge wear examination (for a detailed description of edge-wear examination in this research see Chapter 7.7-8). I shall now briefly introduce how I have collected and recorded the edge wear information. The full description of the surface condition of the spearheads in the sample has been transcribed in (Appendix 2). All the information has been collected in a database, which consists of a series of Excel spreadsheets (Appendix 2.1-3), comprising data on:

1. Recovery: recent excavations; quarrying; dredging; agriculture and construction works; old excavations; survey; survey and extraction; museum collection; unknown (Appendix 2.1);
2. State of completeness (Appendix 2.2):
3. Wear-observation (Appendix 2.3): the features recorded are as follows:
   • First row: object number, according to the order examined (i.e. 13/2: 13 is the number of the findspot, and 2 is the number that refers to the spearhead, thus indicating that there are more than one spearheads in the same context);
   • Second row: catalogue or archival number allocated to the object by the museum, when available;
   • Number that refers to the state of completeness of the objects; (see Table 7.8)
The next entries concern an array of marks on the surface of objects, which have been divided as follows:

- **Manufacture**: Finishing: state of the casting seams; asymmetry (i.e. different thickness of the wall on the metal); casting flaws, pitting on surface; grinding; polishing; sharpening (through hammering and using of different abrasion methods); bevelling; decorating;
- **Use-life and maintenance**: chips; nicks and notches; bowing; scoring; distortions (lateral distortion or bent blades); cracked, damaged or broken socket; hollow areas, crushed, cracked and broken midrib or tip; strained rivet holes; resharpening; reworking and repairing; possible evidence of tracing; hammering;
- **End of the use-life**: breakage of portions of the spearhead (altering the original profile of the blade, cutting away or tearing it without any loss of metal); breakage of the wooden shaft can be assessed on the basis of the presence of wood in the shaft, or sometimes hypothesized according to the damage around the mouth of the socket; severe hammering which resulted in indentations, bowing, flattening, crushing on the blade, midrib and socket); distortion due to severe bending and folding; wedging objects into the channel; breakage through instruments or through pulling and bending; burning or heating; scratching; scoring;
- **Post-depositional marks**: distortion and modern marks; breaking; conservation treatment.

The sample deliberately focused on specific kinds of contexts and types of deposit thought to be significant in the Italian Bronze Age. They mainly include: hoards, settlements, cemeteries, multiple depositions, and unknown (Table 3.4). Considering that among the spearheads collected from the publications available, those from southern Italy were very few – at least up to date – I decided to select the most representative contexts from northern and central Italy. They range between the Middle and the Final Bronze Age (ca. 1700-950 BC). I believe that the inclusion of spearheads from diverse contexts of findspots can provide essential information about the use of objects in the past. In fact, one of the objectives of this thesis is to investigate to what extent spearheads bear traces of past events, in order to demonstrate that objects may have been used actively in different contexts (either in those ones for which a “ritual” explanation may be more straightforward or in other ones which traditionally have been interpreted “practical” terms). In this perspective, some considerations about a number of spearheads from settlements are of key importance (i.e. see Viverone-Piedmont, Chapter 5 and in general Chapter 7).

Having identified the spearheads to be sampled, each museum was formally approached through a letter of application, requesting permission for the visual examination of the pieces concerned. The majority of them replied promptly and positively (Museum of Castello...
Sforzesco at Milan, Museum of Como, Museum of Fratta Polesine, Museum of Modena, Museum of Parma, Museum of Piacenza, Museum “Pigorini” of Rome, Museum of Reggio Emilia, Museum of “Storia Naturale” at Verona, Soprintendenza od Verona, Nucleo Operativo, Museum of Varese), some adding to the list of spears I provided new specimens from their collections. Other ones unfortunately did not and have unfortunately been excluded from this study (Museum of Turin, Museum of Este). The study trip to these museums was undertaken between 2010-2011. All the archaeological museums have been acknowledged at the beginning of the thesis, in the format requested by each institution.

![Graph](image)

**Table 3.4.** Number of archaeological contexts selected for macro edge wear examination and the correspondent number of specimens in each category of context.

The directors, the conservators and in general all the staff who followed me during my visits have been always available and prompt in facilitating my work (i.e. labs, quiet places, tables, archives, books of the old acquisitions of the museums, drawings etc.) as well as eager to share with me relevant information about the specimens and the contexts concerned, even after my visits. In several cases, this advice proved invaluable. For example, the discussions with conservators have helped explain the nature of the differences between shades of patination, at least in some cases. In one instance, the edge wear observation revealed important details which required more specific X-rays analysis in order to clarify the nature of the evidence (spear from Fondo Paviani: Appendix 2: 31/1). In some other occasions, I have been also allowed to include unpublished finds from excavations still in progress (i.e. Dr. Bernabò Brea allowed me to include in the present work three fragments of spearheads from the settlement of Santa Rosa di Poviglio – Emilia Romagna). All the Institutions concerned permitted the inclusion of photographic documentation made during my visits, in this current thesis.
The macro-wear study proved to be a cost- and time-effective method, well-suited to the environment in which the spearheads could be examined: it would not have been possible to undertake microscopic analysis or more invasive analysis as this would have required the removal of these artefacts from their host institution, for example. In a similar study, Taylor (1993: 47) argues that it takes roughly six minutes for each object to be examined and that the equipment required was minimal. In my estimation, this is not sufficient time to study all aspects of an object’s biography. However, the use of digital camera recording significantly enhanced my ability to record, review and re-analyse certain aspects of the artefact, after my study visit, as well as compose a systematic, illustrated database. All the spearheads selected for macro edge-wear analysis, bar a few fragile specimens, were removed from containers and showcases in order to be examined. Macro wear observations were carried out using a magnifying hand lens. The employment of directed light also proved vital to the identification of different traces on the surface of the spearheads. For example, artificial light close to the piece (i.e. desk lamp) was determinant in revealing small traces on the surface of the blade such as grinding marks (Fig. 3.1. Left). Natural light (i.e. sunlight) was effective in revealing the original colour of the patina, whilst slanting light enhanced the appearance of surface marks as well as some details in the hollows and conjoining points (Fig. 3.1. Right).

Along with the spearheads which have been personally examined, I have included some other specimens, whose photographs have been given to me by a colleague (with full rights of permission to use this material in the thesis) by Dr. Bastien Tuone (Aspirant F.R.S.-FNRS, Université Libre de Bruxelles). This suite of objects comprises: 2 spearheads from Limone hoard (Appendix 2: 41/1-2) (Museum of Livorno); 1 specimen from the Monte Primo hoard (Appendix 2: 43/4) (Museum of Perugia); Contigliano/Piediluco II hoard (39: Fig. A.321-335) (Museum of Perugia); 21 spearheads from Piediluco I hoard (38: Fig. A.301-320b) (Museum of Perugia and Museo delle “Origini” of Rome).
The constant contact with Dr. Bastien Toune, who is carrying out edge-wear observations on all the Final Bronze Age hoard material from central Italy as well as experiments on fragmentation, has been very influential in understanding the nature of some categories of wear. In addition, his experience in such a field has been fundamental in assisting my identification of the treatment of objects in the past.

In the chapter that concerns the edge wear observations (7.7-8) I have also considered some examples from recent publications, in which the condition of the surface of the spear is either determinable (i.e. pristine conditions) or described in detail by the authors, as well as fully illustrated. In these cases, the appropriate references have always been cited.

3.3. THE CONTEXT OF FINDS OF THE BRONZE AGE SPEARHEADS IN ITALY

The classification of the context of each find relies upon a distinction between two principal environment types: dry and wet. This definition tries to take into account the climatic conditions which are thought to coincide with those of the Bronze Age. In some cases, new publications and recent works have given a fundamental insight into this issue (i.e. Oggiono Ello: see De Marinis 1994; Frontini 2001; some single finds from Trentino-Alto Adige/Südtirol: see Di Pillo and Tecchiati 2002; single finds held in the Museum of Padua: see Cupitò 2000). However, apart from some fortunate cases where environmental evidence is conclusive, the distinction is not always clear-cut, due to the fact that the full context of older discoveries was rarely recorded in detail. Accordingly, the spearheads which have uncertain circumstances of recovery (i.e. from antiquarian collections or generic provenances) are placed in the “Unknown” category. Taking into account the different types
of environments, each spearhead has been tabulated according to the archaeological context in which it was been deposited: while tombs are only related to dry land sites, settlements, hoards and multiple/single depositions fall into both “Wet” and “Dry” categories, depending on the exact locale in which they were situated (Appendix 1). The full definitions of these contexts, including more specific identification of key landscape features, are fully outlined in Table 3.5

### Table 3.5. Scheme of the depositions of spearheads in dry and wet environment.

<table>
<thead>
<tr>
<th></th>
<th>A. DRY</th>
<th></th>
<th>B. WET</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>TOMB</td>
<td></td>
<td>SETTLEMENT</td>
<td>HOARD</td>
<td>SINGLE/ MULTIPLE DEPOSITION</td>
</tr>
<tr>
<td>I. Associated with structures</td>
<td>I. Cave</td>
<td>I. Rock fissure</td>
<td>I. Associated with structures</td>
<td>I. River/stream (stream, river banks, paleo-channels)</td>
</tr>
<tr>
<td>II. Not-associated with structure</td>
<td>II. Settlement</td>
<td>II. Mountain pass, hill tops</td>
<td>II. Not-associated with structure</td>
<td>II. Lake</td>
</tr>
<tr>
<td>III. Hill top, slope, foot hill</td>
<td>III. Settlement</td>
<td>III. Bog, marsh</td>
<td>IV. Cave with underground watercourses</td>
<td>IV. Unspecified</td>
</tr>
<tr>
<td>IV. Unspecified</td>
<td>IV. Unspecified</td>
<td>V. Unspecified</td>
<td>V. Unspecified</td>
<td></td>
</tr>
</tbody>
</table>

#### 3.3.1. TOMBS

The “Tomb” sub-heading consists of a small number of spearheads (as has been discussed above). It mainly refers to flat cemeteries in dry land locations. In only one case, the recovery in a bog in northern Italy (Pergine Valsugana: 177) of a burnt and bent sword, two spearheads and a ring was interpreted as a potential funerary ritual (Bianco Peroni 1970: 104-105, No. 284). The sword with metal hilt is attributed to the very end of the Bronze Age (Ha B1, Bianco Peroni 1970: 105). Generally, the interpretation of some water deposits as evidence of mortuary practice draws upon similarities between the classes of objects found in the water and those found in graves (Torbrügge 1971). Supporting this interpretation, Bradley (1990: 107-109) notes that the presence of human skulls together with later Bronze Age weapons in the River Thames may strengthen such a relationship, at least in some regions and at certain time. This suggests the use of the river (and other bodies of water) as an agent which helped speed up the decay of the corpse, or conveyed the deceased to an afterlife: a very particular form of excarnation. Nevertheless, these arguments can be
somewhat circular, as it is hard to associate particular human remains with specific artefact deposits (*ibid.* 109). Although I am aware of the possibility of funerary practices in watery places, lacking such positive associations, I will therefore consider single and multiple finds in water as examples of the ritual deposition of artefacts, rather than as part of formal funerary rites.
3.3.2. SETTLEMENTS

A conspicuous body of spearheads have been found in settlements and the earlier Bronze Age examples come from pile-dwelling and terramare sites. The pile-dwelling villages are distributed over a vast area in north Italy, which includes the contemporary regions of: Piedmont, Lombardy, Emilia Romagna, Veneto, Trentino and Friuli Venezia Giulia. The attribution of lake-dwelling sites to wet contexts is rather straightforward: villages are mainly located on the shorelines of pre-Alpine glacial lakes, hydrographic basins and intramorenic basins, which continued to be occupied even when the areas became swampy, at least in some cases (Fasani 1982: 33-40). Contrarily, the interpretation of terramare sites is less straightforward.

The Middle and Recent Bronze Age terramare sites of the central Po plain are generally defined as ditched and embanked villages, mostly quadrangular in shape. The typical elevated platforms which identify the terramare sites are suspended on a network of poles and they are built either on dry or in wet ground. These characteristics led some nineteenth century authors to equate the terramare sites to lake-dwelling villages. In a recent book, De Marinis (2000: 187) defined the terramare sites as pile-dwelling in dry land locations. Pigorini (1876: 231) compared some aspects of the terramare sites with the Bronze Age Hungarian tells (in particular Szihalon and Tőszeget), developing the theory of trans-Alpine people moving to north of Italy. Cardarelli (1992) considered the close similarities between the material culture of the two areas in coeval phases as the potential proof of the infiltration of human groups in the Po plain from the Charpatic-Danubian Basin. Peroni (1997) also stressed the close relationship between the two regions; the author believed that the Hungarian-type swords in many rivers of the Veneto region, which is located between the two areas, confirms his view. Pearce (1998 b) pointed out that the nineteenth century hypothesis which regarded the structures of the terramare in term of a “cultural trait inherited from the lake villages” still has validity.

In a later contribution (2007: 100) Pearce also argued that the “attraction” for a wetland location is shared by both terramare sites in the Po Plain and lake-dwelling villages. He considered “wetland” locales as a prominent feature of Bronze Age sites in the Po Plain; this appears to be also confirmed by the fact that the “wetland imperative” is dominant among the most common definitions of terramare: pile-built villages located on small raised, dryland locales, in what is was otherwise a wet and swampy broader environment (Pearce 2008: 22). Despite the contrasting interpretations and the complexity of the issue, there is
general agreement about the similarities of the terramare sites and the pile-dwelling villages in terms of both structural characteristics and cultural traits.

This argument needs further consideration. On the one hand, there is no doubt that in some cases the terramare sites occupy depressed, humid zones of the plain; at the same time, it is also acknowledged that the structure recalls that of the pile-dwelling sites. On the other hand, there is also a close relationship with the Hungarian tells in dry lands (coeval to or even earlier than the earlier phases of the terramare sites). Cardarelli (personal communication) argues that a comparison of bronze material found under both pile-dwelling and terramare sites, reveals that the immediate environment under even the terramare structure was often not fully submerged but rather consisted of thick, damp silts – from which a spearhead might be recovered.

Taking into account all these considerations, I believe that a key factor in tackling this issue is the interaction of the community’s sensorial and visual experience with places in the landscape. In the inhabited landscape, the individual (as member of a working community) modifies and uses the land over time, creating distinctive features redolent with human activities and practices. Through these repeated associations, people attached different values to these places, in reciprocal relationship which helped reproduce both the meaning and significance of the places themselves and the identity of their users (Chapman 2000: 183-190). In addition, the associated structures within a settlement site as well as the choice of a new place to be occupied would have reflected “mental maps”: a set of images in which “ancestral traditions” and historical narratives” converged together (Küchler 1994 cited in Chapman 2000: 187). These collective images - the habitus in Bourdieu’s terms (1977) – could then be actualized in new spaces, which although very different from the original ones, could be modified and recombined, generating a new syntax of meanings. Changes signify neither a loss of identity nor the full acquisition of new models, rather the re-contextualization of traditions and new influences within a dialectic and cognitive process, which sometimes has as a result an “hybrid” product. This may be the case of terramare sites, either as incoming communities struggles to reconcile ancestral architectural traditions within a new landscape, or as indigenous communities settled in rather different locales but used familiar building practices.

Turning to the pile-dwelling sites, it is generally acknowledged that these sites involved a strong engagement with water. A lake, for example, is a feature in the land, a part of a habitat that preceded inhabitation, and in which people dwelled in co-existence with this natural feature. In the case of terramare sites, the scenario appears different. By and large, such sites provide evidence of much more active landscape management, in which the
appearance and behaviour of water was altered: watercourses were diverted in order to align with the moat which was delimited by the bank (i.e. Montale: see Boni 1884). The terramare communities developed a water management regime (we might think of them as a particular kind of ‘hydrological community’ Evans 1997), whose transformations do not seem to have been intended for irrigation purposes (Cremaschi 1997: 118). Pollen analysis has revealed that the landscape surrounding the terramare sites frequently consisted of an open space, created through intense forest clearance for both the extension of agricultural lands and stock-breeding purposes (Cremaschi 1997: 122-125). While in the case of pile-dwelling sites pre-existing features of the landscape are conserved in their more primordial aspects (conjuring a sense of respectful co-existence or responsiveness to the natural landscape), the terramare sites suggest a more aggressive remodelling of the landscape to suit particular cultural ends. The different organization and use of space may be one factor in considering the terramare sites as complex systems in dry land.

It must be noted that, although the term terramara is generally extended to all the sites which show similar cultural characteristics, the typical structures of the traditional terramara (basin, moat, banks and network of poles) differ according to the different physiographic units occupied (Bernabò Brea et alii 1997 a). However, the terramare sites are commonly considered as a system: a widespread occupation of a geographic space which is constituted by different physiographic niches (plain, hill tops, river valleys etc.). Recent studies have argued that this system appeared highly organized, according to economic as well as political and demographic aspects, at least between the Middle Bronze Age, Phase 3 and the Recent Bronze Age (Cardarelli 2009). Well-organized societies are also hypothesized for the pile-dwelling sites (Fasani 2002), though to a lesser extent compared to the terramare villages. Cadarelli goes on to argue that despite their differences, such systems in neighbouring areas may have had much in common – not least strong similarities in material culture during the Middle Bronze Age. Yet there are significant physical differences. The parallels of the terramare sites with the Hungarian tells is a further argument for distinguishing the terramare sites from the pile-dwelling villages: the frequent occupation and rebuilding phases created an artificial mound which in the long run raised the original ground level into a tell-like structure.

In conclusion, in my opinion these comparisons reveal a difference, though at times somewhat opaque, between wetland pile-dwelling villages and the system of terramare sites in dry lands (this definition does not exclude the fact that some terramare may have been built in wetland contexts). In addition, the complex network of relationships and interdependence among the terramare system is generally acknowledged by authors. I
believe that it is when the interaction between the terramare system and the landscape is considered that the problem may find a solution. As I have already mentioned, the occupation of different physiographic units led the inhabitants to interact with various ecological zones, yet each site was situated within its own particular niche. In the case of the pile-dwelling villages, a strong relationship between people/water stands as a prominent characteristic of these sites, even though they were integrated within a larger system. It is in this sense that I would consider the terramare sites more predominantly as dryland contexts, despite their ‘pile’ construction. In drawing this distinction between wet and dry contexts, however, I do not mean to imply any environmental determinism.

The terramare and the pile-dwelling systems collapsed around 1200 BC, involving the rapid abandonment of many sites. As a result, in the course of the Late Bronze Age the number of settlements in northern Italy associated with spearheads sharply decreases. They appear prevalently located on small mounds formed by sediments transported by fluvial processes. Those sites are mainly distributed in the central Po valley. Towards the end of the Bronze Age spearheads appear in southern of Italy in a site located at the mouth of the Candelaro river (Coppa Nevigata: 64, 65, 137) and in the fortified hill tops of northern-eastern Italy. Stray finds recovered during surveys in the area of settlements fall under the “Settlement” category (i.e. Castellaro Lagusello: 60; Frattesina: 144; Fondo Paviani: 142).

3.3.3. HOARDS

A conspicuous number of spearheads have been recovered from hoards, which may contain either single or multiple depositions of this particular weapon. Hoard is an umbrella term, which involves the collection of artefacts either for ritual or not-ritual purposes as well as for permanent or temporary safe-keeping and deposition. They can be found in wet and dry lands and their composition represents either a simultaneous act or a collection of artefacts over an extended period of time. Accordingly, the tabulation of hoards in this study will not distinguish between ritual and non-ritual hoards (since even if this distinction was drawn by ancient people, its meaning may have changed over time); contrarily I shall use the term ‘hoard’ to refer more broadly to the structured collection and accumulation of metalwork for different purposes.

Having argued this, it is evident that some locations, the selection of particular categories of objects or their treatment, may be strong indicators of more ritualised activity: I will reflect on the usefulness of the concept of ritual, following the full analysis of these phenomenon. Even the categories defining different locations used in this thesis (Dry: rock
fissure, cave; Wet: river, lake, bog, spring) may not neatly coincide with Bronze Age perceptions of their world. Nevertheless, we can at least challenge the traditional argument that hoards represent a deliberate and permanent abandonment of material: some may well have been intended for recovery, or have been re-visited or re-encountered during the placement of additional offerings. Similarly, we might strive to understand the inclusion of human and animal bones (traditionally used as another defining characteristic of ‘ritual’ behaviour) in more subtle (c.f. Oggiono-Ello - Lecco: Frontini 2001) (for a broader discussion about the consumption and deposition of metalwork during the Bronze Age see Chapter 1.5-6).

In addition, the interpretation of hoards on dry lands as more ‘utilitarian’ in nature (due to the ease of recovery), appears more problematic than it was generally believed, despite the fact that it still dominates the accounts of many scholars. By and large, such works stress the economic implications of such hoards. It is also taken for granted that incomplete objects and fragments or more mundane objects (i.e. sickles, chisels etc.) are key indicators of such “utilitarian hoards”. The number of classifications of the metalwork types collected in hoards has been elaborated over time, so that assemblages with finished objects have been usually interpreted as the stock-in-trade of merchants ready for distribution, while fragmented objects were associated with the activity of smiths and with the accumulation of scrap for recycling (Evans 1881; Rowlands 1976). However, the frequency of temporary-stored hoards subsequently lost in the course of the Bronze Age would not explain why smiths would have so often failed to recover them (Bradley 2000, 2005; Harding 2000; Needham 2007).

Indeed, the traditional bipolar model which separates “ritual” from “utilitarian” is no longer satisfactory, though clearly differences in the composition and state of these assemblages is important. Fresh studies have developed alternative interpretations of the fragmentation of objects and the presence of mixed classes of metal artefacts in hoards. A recent study by Bradley (2005: Chapter 5), revealed that only certain portions of objects were included in so-called ‘scrap’ hoards (e.g. specific segments of axes or sickles), suggesting specific and deliberate selection which might suggest ritualised choice of prescriptions were at work. In the same way Chapman’s 2000 monograph is entirely devoted to the study of fragmentation as a key relational concept as well as symbolically rich practice. The author believes that objects are the “material dimension” of the relationships between people, places and objects themselves (ibid. 4). Accordingly, he points out how traditional typologies and social analyses are insufficient for understanding past practices. Borgna (2000-2001: 289-294) also approached the practice of scrapping bronze and the
selection of specific classes of objects in hoards. She recognized a sort of care or ceremony in performing acts of depositions. However, the author acknowledged that the ritual sphere is elusive as it has its own codes of behaviour which are not always identifiable archaeologically. In addition, what is supposed to be ritual behaviour may have been dictated by practical reasons instead (see Chapter 1.6). Despite acknowledging the blurring of these categories, she stressed the fact that socio-economic and political factors may be the most feasible motivations behind the metallurgical activity in a broad sense (production, consumption, system of accumulation, mobilization and distribution).

I believe that the one-sided search of functionalistic logic works under the misapprehension of ritual behaviour as a distinct sphere in prehistoric rationality (see i.e. Brück 1999; Bradley 2005; Bradley and Yates 2010 a: 406). At the same time it is generated by a modern criteria which do not match prehistoric rationality (Brück 1999). If we accept that human practices, from the most formalized ones to those which permeate everyday activities, are intertwined with ritual and traditional gestures, then our functionalist interpretations as well as our understanding of socio-economic dynamics of past societies will be always partial. The economic logic of past peoples may be radically different to our own: saturated with spiritual or religious concerns which made practical sense in their worldview. Indeed, even our own economic criteria in contemporary market-based Italy, is informed and influenced by social obligations and cost-benefit logistics which seem nonsensical: such as the importation of granary produce into southern Italy, at the expense of indigenous production. In any case, focusing solely upon the practical aspects of the accumulation of metalwork seems also to contrast with ethnographic evidence, which suggests that the whole metallurgical process is a set within traditional customs which are imbued with ancestral traditions and laden with symbolism (Herbert 1993; Helms 1993) (for further details about the attempts to break down the divide between “ritual” and “utilitarian” hoards see Chapter 1.5). New insights into the inadequacy of the opposition between utilitarian and ritual also come from the present study (see Chapter 7.9).

In conclusion, taking into account the fact that (1) the two domains of “ritual” and “non-ritual” often overlap, that (2) objects may shift between the poles of these practices, as they move between different arenas of meaning, and that (3) the context of find may be a peculiar feature in defining the character of the deposition, I shall now explain how I intend to consider “Hoard” in this research.

Assemblages of metal finds which represent structured collections kept together (in pits, or in containers made of different materials etc.) and ultimately not recovered, have been
tabulated all together under the collective heading of “Hoard”. This permits me to include those composed by a single event but also those accumulated over a more prolonged period of time which were clearly and deliberately associated. What will become evident from the analysis is that some bear evidence of more ritually explicit kinds of processing or deposition than others.

The subsequent step has been to tabulate the contexts on the basis of the geographic features which refer to “wet” and “dry” environments, at least when it was possible (Table 3.5). It may be worth noting that this list does not cover all the natural places which may have been significant for past societies. However, the relatively large number of finds without precise indication of context or with no provenance is deceptive: with better antiquarian records we might well be able to ascribe these to one of the key depositional locations. (Methodologically, this points to the importance of making contextual records of such discoveries, something that is often omitted from older accounts or chance finds).

Dry land finds are usually situated in subterranean, earth-dug pits, yet wetland finds occur in a vaster array of locations. They mainly include finds directly from rivers/stream or lakes, river banks or lake shores and paleo-channels. In this specific case, recent investigations conducted with rigid scientific methodologies helped avoid doubt about the exact context of deposition. Bog sites may raise some problems as the environments of the Bronze Age may have differed from the more recent historical landscape. For example, at the moment of the discovery of the Merlara hoard (Padua) the author (Callegari 1933) referred that the place where the assemblage was deposited as wet. However, it may be worth noting that due to the flooding of river Adige the area became swampy only from the fifteenth century A.D. onwards. Accordingly, Bagolan and Leonardi (2000: 45, Fig. 15) include the Merlara hoard among deposits outside settlements: they do not allude to a possible connection with a watery place.

All the geographical features mentioned apart from settlements can be considered ‘natural places’ whose significance may have derived from their role in narratives about the ancestral landscape, while “settlement”, may be included among the artificial features of the landscape which were of more recent and deliberate fabrication. Nevertheless, all geographical features characterize the landscape as a dynamic setting, which is perceived and experienced through habitual tasks, passed from generation to generation, generating a collective memory of that place (Ingold 1993). Therefore, every feature is pregnant with the cultural representations of the positive and negative values which the community deposited upon it, becoming “a potential clue, a key to meaning of the landscape” (ibid. 171). However, we should be aware of the fact that particular loci which are not evocative for us
might represent the tangible residue of past experiences. For examples, the deposition of metalwork in a dry place that is not conventionally defined by us as “special” may reflect the status of the objects themselves. Accordingly, Turner (1998) interpreted the fragments in mixed hoards as representing a middle, transitional stage between what they were originally and what they were intended to become: awaiting transformation into new categories of objects in a suitably liminal space. They may have been perceived during this time to be ambiguous and dangerous, creating a negative feeling that was expressed through the deposition of the pieces awaiting reintegration, in these liminal spaces. In this perspective, the deposition of objects would perpetuate a contrast between the “inside/secure” and the “outside/dangerous”. The experience of space and place outside may create, reproduce and sustain individual and collective identities either in terms of the aggregation of an individual (i.e. a rock fissure where objects were deposited may have been the place of initiation rite of a particular segment of the society) or in terms of separation of the individual (i.e. spaces which were selected for training or for special male cults may have been forbidden to women). Thus the deposition of hoards helped create expectations and reaffirm associations about these places, due to the close ties between people and objects.

The culturally constructed concept of outside/liminal/chaotic is only perceived in opposition to inside/domestic/secure. A settlement is a man-made construct. The internal space of a settlement is structured on the basis of associated features such as houses, roads, working areas, ditches and so on. All these features may in turn separate and group people together. At a basic level, the walls of a house separate family units from one another, but at the same time they can keep together members of the same family. In the same way a moat, a ditch or an embankment may encircle a space within which people live together, but at the same time they can be a physical boundary between the settlement and the surrounding land. In addition, the physical barrier of a moat, for instance, may become through a culturally dictated process, a boundary between the “orderly conceived” and the “chaotic” world (see Helms 1998 about domestic versus chaotic). In this perspective, settlements become fundamental features, which contribute in creating and maintaining the “ideological contrast” within a wider landscape which becomes entangled with individual’s experiences.

3.3.4. MULTIPLE AND SINGLE DEPOSITIONS

Multiple and single finds will be considered together. The multiple deposition of objects may represent the results of successive single events, which were extended over time. As in
the case of the hoards, the issue implies subtle aspects which I shall explain in order to make explicit how I intend the distinction between hoards and multiple and single depositions.

The spearheads which fall into the definition of “multiple and single depositions” are all those spearheads which are not kept together within a container, be that a metal vessel, an organic box or a simple pit in the ground: thus creating a strong contrast with the criteria used to identify hoards (see above). The definition includes both single finds and assemblages which could have resulted respectively from a single event and from more than one period of votive deposition in a selected place. These single or multiple depositions may have occurred either in wet (i.e. rivers or streams) or dry locations (i.e. hill tops) and they are generally interpreted as votive offerings. This is as loaded a term as that of ritual, and requires some subtle unpacking. In fact, the term “votive deposition” can also be extended to “hoards” which have been made up over an extended period of time. In the case of hoards, the device used in keeping the objects together, the care taken in the arrangement of objects, suggests a structured set of practices which is determinant.

Contrarily, in the case of multiple depositions, the artefacts have been discarded over time in specific areas, although this does not imply that this kind of deposition was not structured: indeed, it represents a repeated, long-term commitment to a specific place. Outside Italy, there is a remarkable example, very well known in the British archaeology, which allows the study of the distribution of particular deposits in specific offering places; this is the Late Bronze Age site of Flag Fen in eastern England (Pryor 1992). Here, the rules through which the deposition of objects is formalized emerges clearly (Bradley 2000: 51-54). Additionally, we may consider that the recurrence of depositions in the same place was not randomly done as the presence of natural points of reference (i.e. stones, outcrops, river crossing etc.) would have helped prompt memory, attracting subsequent depositional activity.

Turning to the archaeological evidence, the spearheads which fall under the “multiple and single depositions” sub-category have been also tabulated according to the geographic features which refer to “wet” and “dry”, as already indicated above (Table 3.5). As for dry lands, a category that needs some further consideration is that of depositions in caves which contain underground rivers. A distinctive example is that of the Pertosa Caves (89, 178). Those are a karst cave system in the eastern side of Alburni mountains (Salerno – Campania). Apart from the objects recovered inside the cave, the so-called “stipe esterna” (a votive deposit external to the cave system) (Rellini 1916) was found in the area of the underground lake, just after the main entrance. Trucco (1991-1992: 474) believed that an
association could exist between the objects thrown in the underground water of the Pertosa Cave and the objects given up in rivers. Contrarily, Cultraro (2002: 456) interpreted the deposition of objects in the Pertosa cave in a somewhat different way. On the one hand, the nature of the underground deposit as well as the association of weapons with other artefacts would distinguish it from the offerings in watercourses in central-northern Italy. On the other hand, it is possible to associate it with the ritual practices attested in southern Etruria and Latium, where the votive depositions occurred in the proximity of springs (i.e. Banditella – Vulci and Ripa Maiale – Allumiere) in the course of the Late Bronze Age. Taking into account all these considerations the spearheads deposited in the Pertosa cave will be considered as watery finds.

The majority of the single finds come mainly from surveys or museum collections. Considering dry lands, a few specimens were deposited in mountain passes (i.e Sella mountain pass (106), Di Pillo and Tecchiati 2002: 429). In one case, a spearhead was found in the corner of a structure in the site at Coppa Nevigata – Puglia (64). Unfortunately, the 22% of the contexts of the single finds remains unspecified. Turning to wet places, some recent studies have helped clarify the exact context of deposition. For example, the scientific approach to contexts of find, the accurate analysis of the materials and the study of post-depositional processes which informed the recent discoveries from Brenta river – Altichiero (129) (Leonardi and Zaghetto 1993), made possible a correct evaluation of its original depositional context. The authors advanced two hypothesis: the bronze artefacts (among them a spearhead) were deposited directly in the water or in a wet context (i.e. marsh) before slumping into the watercourse owing to processes of erosion. In other instances, a study revealed that some of the unprovenanced bronze materials held in Padua Museum (Veneto) had a water patina which led the author (Cupilò 2000) to venture the hypothesis of primary deposition in wet lands (i.e. rivers).

The Fucine Lake (L’Aquila) is another case in point. The great majority of the bronzes were recovered there by chance, without scientific methods, and they have ended up in private collections which eventually were donated to museums. The majority of them have been recovered in small communes in the Province of L’Aquila (Abruzzo), which probably surrounded the former lake before the Prince Alessandro Torlonia commissioned its drainage (1855-1878). However, in some fortunate cases, the bronzes from the Fucine Lake, which formerly belonged to the Torlonia’s collection, had a water patina which helped clarify the nature of the context of deposition (Bietti Sestieri et alii 2001: 46) (69, 145). Wherever possible, this thesis verified the nature of these assertions but in a few cases, the
contextual information provided by the museum in question provided the only source of
evidence for these finds.

The interpretation of single finds requires some additional remarks. Generally, the single
finds recovered in rivers or with water patination are also considered as votive depositions.
The studies of a number of scholars suggested that fine metalwork recovered from many
European rivers may have constituted deliberate depositions in wet places (Torbrügge 1971;
2001). Accordingly, Harding (2007) doubted the interpretation of single finds such as
swords and spearheads as being accidental losses at riverine locations (many of which were
quite shallow), because it is hard to believe that a warrior would not have make “strenuous
effort to recover it” (ibid. 125). Moreover, it seems implausible to imagine many careless
individuals frequently losing part of their equipment. On the other hand, it may be worth
noting that non-ritual explanations for the recovery of single finds also exist. In fact, the
deposition of Bronze Age materials in rivers may suggest a number of more mundane or
natural reasons, which Burgess and Needham (1983) summarize as follows: objects may
have been eroded from nearby settlements into the rivers; riverine bronzes may represent
losses resulting from skirmishes or naval engagements at river crossings.

As I have already showed above, the Final Bronze Age spearhead found in river Brenta –
Altichiero (129) seems to have been deposited directly in the watercourse; it does not appear
very damaged and more interestingly it does not show smooth or round edges, which may
have been caused by long-lasting river-rolling (Leonardi and Zaghetto 1993: 13). Thus, the
authors argued that the object remained in the same spot where it was originally deposited,
perhaps due to the fact that the wooden shaft was removed in order to avoid an easy
recovery or prolonged floating (Bradley 1990: 24). In that area a Middle Bronze Age
settlement is also attested; nevertheless, the spearhead in the river may be dated to the Final
Bronze Age (Leonardi and Zaghetto 1993; Bruno 2007). In the same spot pottery sherds
have also been found, apparently relating to a nearby Late Iron Age-Roman site and a
partially co-eval votive deposit which contains corroded iron objects. This accumulation of
materials suggests long-term depositional activity around the same spot. This is a good
example which encompasses a number of aspects which need to be considered, in relation to
riverine materials. Although some materials may well have eroded out of settlements, as
Burgess and Needham suggest (1983), the disproportionate amount of bronze is at odds with
the materials we might expect to be derived from settlements where pottery and faunal
remains might predominate. In fact, such “mundane” objects or associated features of houses
are only rarely found in rivers. In relation to their second argument, it seems reasonable that
river crossings may have been the particular loci of bellicose practices, yet once more we might expect that weapons would have been recovered from rivers as booty or trophies of defeated enemies (Davis 2006: 63), rather than being left in the river.

However, the two authors (Leonardi, Zaghetto 1993) avoided making any explicit interpretation of the bronzes recovered in the river Brenta. The spearheads may be a ritual offering, in accordance with other wet-land depositions attested at contemporary sites in north-east and further south in central Italy. In addition, the fact that the bronzes do not seem to be coeval with either the nearby Middle-Recent Bronze Age settlement nor with the second settlement and the votive deposit attributed to the Late Iron –Roman Age, would suggest a separate event and distinct motivation for this particular deposit.

3.4. PROBLEMS AND POTENTIALITIES

Above, I have mentioned the key role played by human activity (agriculture, dredging works, construction etc.) in recovering archaeological materials. We should consider that the frequency of these activities may have affected some areas more than others, biasing the distributions of object. In addition, we should be also aware that a conspicuous number of finds may have entered the black market, being traded or purchased and consequently being never brought into the public record. Accordingly, the information about the context of deposition is subject to a degree of inaccuracy, which may have affected the validity of the distributional pattern. The problem comes to the fore when we attempt to interpret and discuss evidence which may rely on an ambiguous degree of certainty. However, the information coming from other professionally excavated contexts, such as cemeteries for example, are more representative of the prehistoric record. For instance, the absence of spearheads in graves during the Middle-Recent Bronze Age northern Italy represents the evidence of a real absence. Accordingly, this information reinforces the fact that the deposition of spearheads is not randomly distributed. In the same way, the recovery of metal objects in the land cannot only account for lost or sudden depositions in time of danger; contrarily it appears to be an intentional act, that reflects repeated customs or traditions.

In order to understand how people made use of objects I would argue that a solution may be a combined analysis that marries more traditional typological studies with observation and documentation of the individual artefacts themselves, focusing on contextual analysis and edge-wear observations. All the information so gathered should be elaborated in a theoretically informed manner. The main objective is to minimise damage and cost (using simple and non-invasive methodologies), designing a research strategy for
the selection of the most appropriate objects to be analysed from groups of large assemblages such as the corpus of spearheads considered in the present research. I am aware of the fact that this approach is not exhaustive and it may also need verifications which come from other methodologies and disciplines. For example, I have mentioned in 3.2 that the spearhead found in the site of Fondo Paviani (Appendix 2: 31), was subjected to X-ray analysis in order to clarify the nature of the black layer observed around the tip of the blade in the course of my examination. In the same way, folded edges and substantial bending of a number of fragments of spearheads from hoards, are believed to occur only through heating the selected portions of the blade on the basis of similar evidence in the existing literature. In other words, the interpretations presented in this thesis could be further tested through experimentation and metallurgical analysis which is beyond the scope of this individual project. Importantly then, my methodology relies on parallel studies and discussions with other scholars, my supervisors as well as with colleagues with experience in this field (Melanie Giles, Kate Harrell, Maria Kostoglou, Bastien Toune, Alessandro Vanzetti).

Using a selected series of examples, this chapter has begun to highlight the potential to recreate a series of events in an object’s life circle using a combined methodology, which also has the capacity to challenge some traditional interpretations. In the course of this study, I have also been able to highlight those examples with sufficient evidence to warrant further and more specific examinations. Whilst focusing only on one class of object, this represents a significant step forward in approaches to prehistoric material, revealing the potential of this method for other metalwork types and periods. The cross-checking provided in this integrated methodology can balance the limitations of individual approaches, creating a research strategy that is continuously open to verification.

In the next chapter I will illustrate how typology will be approached in this thesis, and subsequently how the resulting patterns can be interpreted in a theoretically informed manner, to reveal aspects of discrete or local identities as well as larger senses of shared group identification.
CHAPTER 4. THE TYPOLOGY OF SPEARHEADS

This chapter will deal with the typology of the Italian spearheads. First I will illustrate how the classification of spearheads has been approached in the past by scholars in Europe and in Italy (4.1-2). Second, I shall discuss some problems which we may encounter when classifying archaeological materials (4.3). Subsequently, I shall discuss how I will present the typology of spearheads in this research. As I have already mentioned, the typology of spearheads relies upon a previous work that I published in 2007 (see Chapter 3). A detailed description of the typological classification and the relative tables are given in Appendix 1.1-2. Building upon and developing this research, using typologically-derived chronological information, I shall analyse a series of characteristics of the Italian spearheads, which have not been previously investigated in detail: the length of the spearheads (4.4.1), in order to explore their potentialities in terms of technical improvements and effectiveness, evaluated within a chronological sequence (MBA; RBA; FBA). (N.B. The early Bronze Age has not been considered as spearheads appear only at the beginning of the Middle Bronze Age: Table 3.1) (4.4.2). Subsequently, I shall conclude by illustrating how the main types of spearheads are distributed across the Italian peninsula (4.4.3) in order to discuss if there is any relations between spatial distribution and people’s identities (4.5).

4. 1. LITERATURE REVIEW: THE APPROACH TO THE TIPOLOGY OF SPEARHEADS IN EUROPE

The first attempt to classify spearheads was systematically developed by Jacob Friesen in his _Bronzezeitliche Lanzenspitzen Norddeutschlands und Skandinaviens_ (1967). The core of the material collected came from northern Europe, though a consistent body of spearheads from central and eastern Europe was also considered. The concept which the author espoused was that a typological analysis is a reliable method as long as a large assemblage is available. This is because the main purpose of the typology must focus upon the identification of distributional patterns. Accordingly, each artefact was disassembled into single elements in order to identify patterns or combinations of elements which vary
in time and space. The author was sceptical about the use of mathematical formulations and seriations as primary tools in the classification; contrarily they must be used *a posteriori* as synthetic exemplifications. However, although a valuable study, this work represented more a collection of material rather than a true typology. First, it lacked a taxonomic structure with the hierarchical organization of the variables; second, types are arranged according to chronology in order to identify particular distribution of types over time. In addition, particular decorations and specific features of spearheads became key factors in classifying spearheads under certain types. In this way, the author created large groups within which he gathered a wide range of spearhead types, suppressing difference and variation.

A few decades later, further works began to classify Bronze Age spearheads in Britain. The classification of Ehrenberg (1977), which is rooted in the Burgess’s study (1968 cited in Ehrenberg 1977: 1), proffered an example of this kind of research; the typology that the author proposed relied upon earlier attempts, which were mostly discussed in “short notes on individual types or in regional surveys of Bronze Age metalwork” (Ehrenberg 1977: 1). Stressing the necessity of both a thorough study of the spearheads in Britain and a revision of the relative chronological sequence, Ehrenberg distinguished the following classes of spearheads (Table 4.1):

<table>
<thead>
<tr>
<th>BLADE SHAPE</th>
<th>ATTACHEMENT TO SHAFT</th>
<th>MIDRIB CROSS-SECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>TANGED</td>
<td>TRIANGULAR (DAGGER-LIKE)</td>
<td>TANG + RIVET HOLE</td>
</tr>
<tr>
<td>END-LOOPED</td>
<td>TRIANGULAR</td>
<td>LOOPS ON SOCKET</td>
</tr>
<tr>
<td>KITE-BLADED</td>
<td>KITE-SHAPED</td>
<td>LOOPS ON SOCKET</td>
</tr>
<tr>
<td>SIDE-LOOPED</td>
<td>LEAF-SHAPED</td>
<td>LOOPS ON SOCKET</td>
</tr>
<tr>
<td>BASAL-LOOPED + LEAF-SHAPED BLADE</td>
<td>LEAF-SHAPED</td>
<td>LOOPS AT BASE OF THE BLADE</td>
</tr>
<tr>
<td>BASAL-LOOPED + TRIANGULAR BLADE</td>
<td>TRIANGULAR</td>
<td>LOOPS AT BASE OF THE BLADE</td>
</tr>
<tr>
<td>RAPIER-BLADED</td>
<td>RAPIER-SHAPED</td>
<td>LOOPS ON SOCKET</td>
</tr>
<tr>
<td>PEGGED</td>
<td>LEAF-SHAPED</td>
<td>PEGHOLES</td>
</tr>
<tr>
<td>BARBED</td>
<td>WIDE PARALLEL-SIDED + BARBS</td>
<td>PEGHOLES</td>
</tr>
</tbody>
</table>

**TABLE 4.1.** Scheme of the variable considered in the typological classification of Ehrenberg (1977)
Apparently, the author did not use any actual measurements, mostly because such an attempt would have been ineffective in a situation where the sample considered is limited to a small part of the Southern England.

Typological methods received a different degree of rigor in the huge catalogues of the Prähistorische Bronzefunde series. Only two volumes within this series were devoted to spearhead classifications. Avila (1983) contributed a seminal study on Greek spear- and arrowheads in his Bronzene Lanzen- und Pfeilspitzen der Griechischen Spätbronzezeit. In this study, a basic distinction was made according to the way the spearhead was attached to the shaft (Grundformen/Ground class): by means of a small tang clamped between the wooden shaft and tied on through organic fastenings pierced through small slits on the blade, contrasted with true socketed spearheads. Different types (Typen) were primarily described according to the features of the blade (i.e. shape, edges and midrib cross-section). These variables were superimposed on those of the socket. Further distinctions were made according to particular variations of features (Varianten). The author introduced the term of Typenreihen (typological series) to indicate a broader category within which different types of spearheads, sharing similar morphological characteristics, were gathered together. Along with the typological classification the author identified groups of “various spearheads” (Verschiedene Lanzenspitzen…), which were further defined according to either their particular regional distributions (i.e. Verschiedene Lanzenspitzen aus der Argolis = various spearheads from Argolys) or specific features (Verschiedene Lanzenspitzen mit langen schmalen Blatt und Kurzer Tülle = various spearheads with long and narrow blade and short socket). However, it emerges clearly that the author used different criteria to structure the typology: Typen and Varianten were organized according to either their chronological variation, their geographical distribution or in some instances on the basis of specific features. Furthermore, the definition of some types is fraught with problems as it is not verified through statistical assessments, merely loose descriptive criteria (i.e. “spearheads with large blade”: although the definition is undoubtedly clear, it may create problems when it is contrasted against other categories of spears, “spearheads with narrow blade” for instance).

The second work within the Prähistorische Bronzefunde series was edited in 1996 by Říhovský. His study includes Moravian spearheads, javelins and arrowheads. Interestingly, the first main divide is in fact anticipated in the title: lanzen (spearheads), speerspitzen (javelins) and pfeilspitzen (arrowheads). By combining the section of the blade with that of the socket, he identified four Gruppe. Among them, basic distinctions were operated according to the blade shape: triangular, round, flamed and rhomboidal (Grundformen).
Subsequently, *Formen* resulted from the width of the blade and the length of the maximum width ratio, whereas *Varianten* concerned the length of the socket and the total length of the spearheads ratio. Further distinctions were defined according to special features (*Ausprägungen* = characteristics). The work of Říhovský matches well the traditional definition of chrono-typology: types are well structured and contexts of finds are systematically investigated and integrated into the discussion. However, although his assessments seem to show a reliance on statistical formulations, these are not published, calling into question the rigour of the taxonomic structure. Moreover, the anticipated distinction between spearheads and javelins was not explained further, leaving some doubt as to whether this was an *a priori* construction or whether it actually arose out of the statistical analysis of the collection.

In developing this avenue of research concerning typological classifications the *Universitätsforschungen zur Prähistorischen Archäologie* series (UPA) is considered to be the natural extension of the *Prähistorische Bronzefunde* catalogues. Among them the Tarot’s study was devoted to the classification of the Swiss spearheads. The author recorded all the information in a database. Subsequently, he singled out eighteen *Formen* on the basis of statistical analyses which employed scatter charts. However, the spearheads with contextual information as well peculiar decorative elements were organized on the basis of eight chronological *Horizon*, which in the author’s opinion were more important than the typological classes. Fragments were integrated into the typology under the “*Varianten*” heading. The classification was conducted according to either attributes which were visibly recognizable or measurements. As for the latter, the length of the blade/the height of the maximum width ratio was plotted in a scatter chart which helped define eight classes. By combining the classes so defined (measurable parts of the spearhead) with the different profiles of the blade (non measurable features), the author defined *Formen*. Subsequently, *Formen* and *Horizon* were combined together with the intent to create a chronological sequence - only indicative - of particular combinations of features.

The novelty of the Tarot’s study definitely consisted in the employment of an innovative method based on statistical analyses. However, the measurable variables which were key factors in structuring the typology are only three: length of the blade and the height of the maximum width/total length of the blade ratio. In the first part of this study, the author considered both decorated spearheads and the other specimens whose contextual information were ascertained, regardless of the typological order. Subsequently,
the author attempted the typology of the plain spearheads (*Formen*), which are only related to a broad chronological horizon.

In conclusion, I would argue that Jacob Friesen accurately selected the key variables for the definition of different types, although he avoided using mathematical instruments, whose utility he argued was limited to verifying the independent typological analysis. In contrast, the limit of the Tarot’s scheme derives from an inability to combine his *Formen* with a finer-grained chronology. On the other hand, the typology proposed by Avila was the clearest in terms of taxonomic ordering, while Říhovský’s classification was the closest to the actual definition of typology *strictu sensu*.

A recent work that concerned the typology of spearheads is that of Davis (2006). Although his classification to some extent retrieves the “descriptive terms” employed by Burgess and Ehrenberg, he developed a typology of the basal-looped spearheads in Britain, which to some extent utilised measurements in order to categorize different shapes of spears (for example, the position of the maximum width on the blade). Indeed, the latter proved key to the discussion of the potential function of the loop and more generally, the purpose and use of the spears. Overall, the main contribution of his study was the combination of such a method with edge-wear study and experimental archaeology. The next section reviews the way in which my own typology built upon these approaches (see also Appendix I.I).

4.2 LITERATURE REVIEW: THE APPROACH TO THE TYPOLOGY OF SPEARHEADS IN ITALY

Turning attention to existing typologies in Italy, it is worth providing a brief outline of the works available. A preliminary distinction of types of spearheads was made by De Marinis (1992). The author intended to use this to revise the chronological sequence of the Valcamonica rock art, through typological considerations of spearheads which are represented in these representations. It was argued that the overlapping incisions of different designs could provide a relative chronology, as their profile may literally have been traced from real-world artefacts. The Valcamonica rock art was originally divided in 4 styles (Anati 1976): STYLE I - Neolithic - praying figures; STYLE II - Neolithic – praying figures, dogs, maps, supernatural entities; STYLE III – A. Copper Age - statue menhir, monumental compositions, daggers, axes, halberds, deer, dogs, cows, wolves – B. Ancient - Middle Bronze Age - daggers – axes; STYLE IV – A. Late Bronze Age - schematic anthropomorphic figures – B. Iron Age - standing warriors, duels, hunting
scenes, huts, Etruscan inscriptions. In terms of iconography there is a shift from
naturalistic figures to complex scenes as we move from one style to another.

The peculiar characteristic of the Style III-B is the representation of either single or
groups of engraved weapons, which can be assigned to the Middle Bronze Age (De
Marinis 1992: 177). The engravings on Dos di Costapeta represent a series of spearheads,
which are attributed to different periods. De Marinis revised Anati’s chronology, which
mostly relied upon the superimpositions, and attempted a comparison between the
incisions and archaeological finds, in order to refine the chronology of the Valcamonica
rock art. The spearheads, as they have been incised on the rock, appear to be socketed
spearheads. Subsequently, he combined the shape of the engraved spearheads
of Dos di Costapeta with bronze counterparts from north Italy for the Bronze Age and
from central Italy (Terni-Umbria) for the Iron Age (Table 4.2). Although it does not
pretend to be an exhaustive typology - as it is not the aim of the author - it provides some
important insights about general trends.

Subsequently, Peroni and Carancini (1999) developed a further contribution to the
identification of spearhead types. The authors elaborated a chrono-typological
classification of the Bronze Age metalwork, that relied on European and Italian contexts
which had been closely dated. The authors defined a relative chronology according to five
hoard horizons, within which they identified a number of indicator artefacts. Despite the
scanty sample considered, the authors attempted a typology of spearheads. A number of
specific features and distinctive shapes were singled out and were held to have
chronological relevance. Indeed, this classification lacked a solid structure both because it
was not the ultimate aim of the authors’ work and because the small number of spearheads
recorded did not require the use of statistic analysis for the typological organization of the
types. On the one hand, it is possible to acknowledge a sort of variation of shapes over
time; on the other hand, any evidence should be treated with caution as it is likely that
their results were magnified by the absence of a wider body of material, so that the
differences in shapes spotted by the authors might be more gaps than chronological
variations.

In 2007 I published a work that was based on my degree thesis, titled “Punte di lancia
nell’eta’ del Bronzo nella terraferma italiana. Per una loro classificazione tipologica
(Bronze Age spearheads of the Italian peninsula. Typological classification). The volume
CHRONOLOGY | TYPOLOGY OF SPEARHEADS | SPEARHEADS: Left: spear from archaeological contexts; Right: spear engraved (De Marinis 1992).

Middle – Recent Bronze Age

1. Leaf-shaped spearheads (maximum width is one-third or less than half of the blade)

2. Flamed spearheads (with “biconvex” tip)

Final Bronze Age – Early Iron Age

3. Longerspearheads

4. Flamed spearheads (with a longer and more sharpened tip)

TABLE 4.2. Typological classification of spearheads from Northern Italy and engraved spearheads from Dos di Costapeta (after de Marinis 1992)

gathered a vast body of spearheads from continental Italy. The great majority of them came from published works, but I have also used unpublished drawings, which I was gifted by Prof. Peroni. Geographically, I have not considered the Islands, apart from the Lipari hoard (Sicily), which was very similar to the mainland material (compared with other island deposits which feature more local traditions of design).

Chronologically, I included the Bronze Age and some Iron Age specimens from Southern Italy when they were considered to represent a typological continuum with earlier artefacts. The first part of this work was devoted to the typological classification
The classification that I proposed relied upon a method which primarily makes use of correlation graphs in order to structure a taxonomic scheme. With regard to this, seven dimensional parameters were considered: total length (TL), length of the socket (LS), length of the blade (LB), the distance between the base of the blade and the point of the maximum width (LMW), maximum width (MW), maximum (MxD) and minimum diameter (MnD) (Fig. 4.1).

![FIG. 4.1. Measurement considered for the typology of the Bronze Age spearheads in Italy. (after Bruno 2007).](image)

Other characteristics evident to the naked eye were also included: incised decoration, fillets, multiple steps, section of the blade and section of the socket. The first attempt was to plot the parameters one against the other in order to define a hierarchy of attributes. In doing so, it was essential to test the effectiveness of the typology of Carancini and Peroni (1999) in order to determine which attributes were key in identifying their types. At the same time the reliability and coherence of their classification could be challenged by the inclusion of a much wider body of spearheads. The main idea underlining this procedure was that the more the attributes grouped together, the more the variables plotted one against the other could be considered determinant for the taxonomic ordering. In conclusion, the scatter charts revealed that key features of the blade formed clear-cut clusters and, accordingly they appear to have been important than variables relating to the
socket (Bruno 2007: Fig.12-15) (Appendix 1.2: Table 1). Once I established the hierarchy among the variables, the second step was the definition of typological classes based on the length of the maximum width/length of the blade ratio:

- **Lanceolate** (L), when the maximum width is one third or less of the blade;
- **Slightly Leaf-shaped I** (*passanti a foliate*: PFO), when the maximum width is less than half of the blade;
- **Leaf-shaped II** (*foliate*: FO), when the maximum width corresponds to, or is above the half of the blade.

Further sub-distinctions were used in order to reduce the range of variability within each class. Accordingly, I identified five basic shapes, which determined the main types:

- **Rhomboidal blade**
- **Sub-triangular blade**
- **Slightly flamed blade**
- **Flamed blade**
- **With convex or convergent edges**

Subsequently I have distinguished, amongst each class, different widths of the blade according to the length of the blade itself (*ibid.* Fig.16). Subsequently, sub-types (*varietà*) were classified on the base of the length of the socket, which this time appeared more significant than the minimum diameter/maximum diameter ratio (*ibid.* Fig 17). In addition a number of other features were held to have relevance in order to make further distinctions (i.e. *Varianti* and *Unica*). The latter refer to features visible to the naked eye (decorative elements, midrib and socket cross-section, multiple steps on the blade etc.).

The second part of this work was devoted to both the study of the contexts of find and to analysis of the relative chronology of the Bronze Age spearheads (*ibid.* 151-207). The main difficulty of dating types with uncertain proveniences or not closely dated contexts was overcome by drawing parallels with spearheads from outside Italy. The last section dealt with the development of the types and their spatial distribution according to a chronological sequence, in order to identify enduring traditions or rapid change in trends (*ibid.* 208-238), but the implications of these patterns were not further discussed beyond an evaluation of morphological attributes as indicators of chronological variation.
4.3. PROBLEMS AND ADVANTAGES OF TYPOLOGIES

In the previous sections, I have explained in detail how I built up the typology of the Bronze Age spearheads in Italy. I shall now discuss the advantages and the problems of my previous study. I would argue that the main benefit of this work was to provide for the first time a basic classification of Bronze Age spearheads in Italy, giving a convenient reference background for the use of other scholars. Although the study focused mainly on published drawings, it can be considered fairly exhaustive for its time. In addition, the study attempted to provide a chronological sequence in order to arrange types and their distribution over time. Measurement and scatter charts were employed in order reduce subjective impressions; and once published, they could then be subjected to further evaluations. In other words, this thesis represented a major contribution to a seriously understudied class of objects, whilst also making key methodological advances, yet such a study was still fraught with problems.

First, as I have mentioned above, my work relied predominantly upon published drawings, which inevitably were drawn in a variety of styles, representing similar attributes in different ways (decoration, texture, patina, wear etc.), and sometimes to unspecified scales. Older publications often provided photographs not line drawings, making it hazardous to identify correct information about the original artifact. A striking example which captures these issues is presented in Figure 4.2. The drawing of the spearheads was traced out from the photograph as it appeared in the original publication (4.2.1); accordingly, the object was recorded as having a circular socket. Yet, the edge wear observation I carried out in the present research has been successful in elucidating some grey areas of the typology I proposed. In fact, the spearhead as fully illustrated in Figure 4.2.3 has three raised ribs along the midrib and the socket, which definitely contrast with the previous description of the circular socket. The integrity of the three prominent ribs is almost completely lost due to the post depositional effects of corrosion and in fact they are dimly visible both in the original and in the recent photograph I took in the museum (4.2.2). In this specific case, it was only the close-up visual inspection of the object which allowed me to correct the previous classification. Whilst such primary analysis was beyond the scope of my original study, it has helped highlight the vital importance of this aspect of my current methodology.

Spearheads which are neither characterized in the drawings with graphic conventions nor described in much detail in the text may therefore be misleading, as they fail to
highlight traces of past actions upon the object. In fact, spearheads may have been subjected to extensive reworking during their use-life and all these actions may have altered the original profile of the spearhead eventually. One of the clearest examples of this is presented in Figure 4.3. The photograph on the right shows evidence of what I have interpreted as a possible reworking; the trace visible around the mouth of the socket may have resulted from the removal of part of it - perhaps a damaged part that needed to be cut away. Accordingly, my classification of this specimen according to the shape and the length of its socket resulted in an unrealistic assessment in my previous study.

![Figure 4.2.1: Drawing of the spearhead taken from the original publication (drawing by author); 2-3. Photographs by author at the “Pigorini” Museum in Rome; 3. Close-up of the midrib of the spearheads. The black arrows indicate the three prominent ribs.](image)

Often, old publications and catalogues did not publish the context of find (or only provided minimal detail at best), sometimes giving priority to those objects which were thought to have chronological relevance, or perhaps worse, to complete and well-made artifacts: foregrounding aesthetic attributes of the archaeological artifact at the expense of a more balanced analysis. In this way, there are objects in museums which never reach the public, unless their contexts are recently revised and published. These situation may bias our evaluations and interpretations, especially when we subject our sample to statistical and mathematical formulations.
The application of rigorous method, involving the use of scatter charts and mathematical formulations, led me to split types and to identify variations more mechanically rather than logically, at least in some instances; that is, for the sake of scientific accuracy. As a result, I was concerned at the difficulties of assigning specimens to one group or to another one on the basis of minute differences; the main tendency was to trace artificial lines between groups in the scatter charts, even when the gaps were not very clear-cut. In this way I overlooked the fact that overlapping types might have been the proof of a more flexible and long-lasting trends or more simply the existence of features less subject to change over the long-term.

FIG. 4.3. Left: Drawing of the spearhead; Right: close-up of the mouth of the socket. It shows (black arrow) traces of reworking. (Photograph by the author. Archaeological Museum of Parma "Palazzo della Pilotta").

The study of the contexts of different finds was principally devoted to the identification of indicator artefacts in order to relate to them those specimens without closely dated contexts. The typological study did not devote time to considering the significance of depositional location. In addition, the meaning of similar specimens found close together or in more distant locations from each other, was not discussed in detail. The ancient marks on the surfaces of the spearheads were never considered (partly due to restrictions in identifying these, as discussed above), nor did the study have time to evaluate deliberate damage: practices of burning and bending spearheads.
The typology is an analytical method in which types are taken to be a combination of features which identify specific groups. In doing so, preference was given to some criteria over others in order to create coherent divisions. Accordingly, shapes, proportions and features enter the rigid scheme of a nomenclature which is assumed to have some reality, leaving little room for a more holistic discussion of human behaviour: the design, crafting and use of such objects. The artificial categories which we create generally fail to recognize that objects do not have a fixed status so that the their final form as we look at it might hinder evidence from previous events (i.e. reworking, successive episodes of resharpening, cutting, or hammering etc.) Furthermore, the standardization of descriptions facilitates the comparison of specimens over wide areas, at the expense of local differentiation.

The concept of time makes the notion of use-life more dynamic and articulate, intertwining material artifacts and human behaviour concurrently. In this sense, objects are not passive, but they become the media of social relationship as they can “materialize the invisible” (Godelier 1999: 109). Artifacts became engaged in social interactions with people and accrued meanings during their life-cycle, which were in turn renegotiated, modified and recontextualized. These series of events in the object’s life circle are marked by time (Chapter 2.1-2). Therefore, the understanding of artifact biographies involves the deconstruction of the rigid structure of typologies. Social practices are the arena wherein a constellation of socially constructed relationships between individuals are expressed by differentiating individuals from others, by assimilating them with others or by the inclusion of them in large social groups in order to achieve their “self definition” (i.e. rites of passage, hunting and war practices, funeral rites etc.) (for the concept of the individual self, the relational self, and the collective self see Sedikides and Brewer 2001:1). In the same way, marks and different treatments of the objects during their use-life and before deposition may have contributed to personalize them against the larger class of objects from which they were drawn, making highly distinctive items with personal life-histories of their own which might be ‘read’ from their surface as well as articulated by those who used or handled them. Accordingly, one of the branches of research that can reasonably help archaeologists to explore the objects’ biographies is the study of edge-wear (Chapter 7).
4.4. SOME TYPOLOGICAL ASPECTS OF THE BRONZE AGE SPEARHEADS IN ITALY
(the types and the Table of the spearhead types cited in the following sections refer to Appendix 1.1-2)

In the following sections I shall analyze some issues which are closely intertwined with the typology of spearheads. The previous classification, though corrections and modifications, is summarised in Appendix 1.1. It is not presented in a standard form (full description of the types, varieties, variants and Unica) because the primary objective is to highlight the main typological trends and not the micro differences. Contrarily, I shall devote the next sections to some issues which are closely intertwined with the typology, but were not discussed further in the previous work.

4.4.1. LENGTH OF BRONZE AGE SPEARHEADS

The following section will deal with the length of the Italian spearheads; all the complete specimens have been plotted in different charts (Fig. 4.4-8) in order to single out potential variations, according to both the three chronological phases of the Bronze Age and the typological categories and groups they have been assigned to.

The first chart (Fig. 4.4) shows that it is possible to single out at least three major classes of length, although they are not very clear-cut especially during the early phases of the Bronze Age:

- **Small**, which includes a subdivision between small and small-to-medium spearheads (from 8-12 cm up to 15/16 cm);
- **Medium**, which includes a subdivision between medium and medium-to-large spearheads (from ca. 16/17-23 cm up to 25 cm);
- **Large**, which includes a subdivision between large and very large (ca. 25/26 up to 30 cm and over 30 cm).

According to the graph, it emerges that the majority of the Middle Bronze Age spearheads are **small**. Specimens over 17 cm are very rare. It may be worth noting that the majority of the spearheads ranging between 16/17 cm and 23 cm predominantly come from the Cascina Ranza hoard (Appendix 2: 1). Further specimens have been found: one at Cuneo (13), one at Bodio (4: Type L22) and another one was found in a rock fissure between Oggiono and Ello (32: Type L7). They perhaps represent non-local productions, according to the content of the alloy (for Oggiono-Ello deposit and Cascina Ranza hoard: Domanico 2002: 442; for Cuneo: Gambari and Venturino Gambari 1986: 163-167). Maggi
argued that, according to the metallographic analysis, the metal used for the spearhead of Bodio seems to have a composition more similar to both the Swiss bronzes and the metal artefacts from the Mecklembourg region in northern Germany.

A different figure is provided for the specimens assigned to the following phase of the Recent Bronze Age and to its overlap with the following period of the Final Bronze Age 1. Small spearheads still provide an important figure. However, there is now a sharp increase of spearheads over 19/20 cm, compared to the previous period. Overall, the amount of the spearheads over 15/16 cm outnumber by far that of the small spearheads. By this moment onwards, we also find “very large” specimens (over 30 cm), though still rarely.

It may be worth noting that the whole figure of the Final Bronze Age may be biased by the fact that the majority of the spearheads were collected in mixed hoards in form of fragments. However, what emerges is that the classes of length are more clear-cut and more balanced in this period, compared to the earlier phases. There is also a sharp increase of large and very large spearheads as well as a significant gap around 21 cm, which seems to slightly modify the class of the medium spearheads defined above. Contrarily, small spearheads (ca. 11-12 cm) are scarcely represented and there not seem to be specimens under 11 cm. Over time, there is a general sense of spearheads enlarging in size to become more ostentatious weapons.

The other graphs (Fig. 4.5-8) have been plotted in order to evaluate to what extent the frequency of the classes of length identified above varies according to the typological categories and groups. The majority of the spearheads, which belong to the category of the lanceolate spearheads with sub-triangular base and angled, rounded and rhomboidal blade (Fig. 4.5) are predominantly represented by Middle Bronze Age specimens, which are prevalently small; contrarily they become longer in the subsequent period of the Final Bronze Age.

In the case of lanceolate spearheads with either flamed blade (Fig. 4.6) or convergent edges (Fig. 4.7) the figure provided for the Middle Bronze Age is trivial (there is only one Type (L42), which has been merged with the Recent Bronze Age types). The spearheads belonging to these two groups are overall longer than those with sub-triangular blade. This evidence is also strengthened by specimens over 30 cm. The number of the very large spearheads may also increase if we consider the fragments of very large spearheads (i.e. Piediluco hoard: Appendix 2: 38, Fig. 291).
FIG. 4.4. Major classes of length of the Bronze Age spearheads in Italy.
Key: X axis: Number of spearheads; Y axis: Length of the spearheads in centimetres.

FIG. 4.5. Classes of length according to the principal typological groups: spearheads with sub-triangular blade and rhomboidal, angled and rounded base. Key: X axis: Number of spearheads; Y axis: Length of the spearheads in centimetres.
FIG. 4.6. Classes of length according to the principal typological groups: spearheads with slightly flamed and markedly flamed blade. Key: X axis: Number of spearheads; Y axis: Length of the spearheads in centimetres.

FIG. 4.7. Classes of length according to the principal typological groups: spearheads with slightly flamed and markedly flamed blade. Key: X axis: Number of spearheads; Y axis: Length of the spearheads in centimetres.
Slightly leaf-shaped spearheads (Fig. 4.8) are mainly represented by small specimens in the Middle Bronze Age, while by the Recent Bronze Age they increase in size. The Final Bronze Age specimens provide a poor figure, with a bias, however, toward large spearheads. As far as the leaf-shaped spearheads are considered, the chart (Fig. 4.8) shows a balanced figure between small and large specimens.

4.4.2 DISCUSSION

As far as the total length of the spearheads is considered, the classes which I have identified seem more clear-cut towards the end of the Bronze Age. During the Middle Bronze Age the majority of the lanceolate spearheads with angled or rounded base are generally small in size. I would suggest that such a design, implying a barycentre (weighted centre of gravity or mass) very close to the base of the blade, may be more consistent with a weapon used in a thrusting mode. It may be worth noting that those spearheads which are supposed to be imports are generally longer than the coeval ones from the terramare and pile dwelling villages. This consideration may be a further argument in favour of non-local products and perhaps a different ideology of war. Also the slightly leaf-shaped spearheads are predominantly small. However, this particular design, with the maximum width coinciding with the half of the blade, perhaps can make them effective in a throwing mode, but not only. In this period the socket is generally medium or long in size. At the same time, the blade can be either large or narrow, regardless of the typological categories and groups.
Accordingly, it may be possible that these early spearheads were used either as throwing or thrusting weapons. Moreover, the fact that they can have either a short or a long shaft, may strengthen this consideration. This characteristic is also evident in Recent Bronze Age specimens, indicating that probably smaller spearheads were multi-functional objects. A small lanceolate spearhead (up to ca. 12 cm) with the upper half of the blade of solid bronze would have probably balanced better in weight between the wooden shaft and the bronze head when thrown against a potential target; contrarily a long shaft that almost reaches the tip of the blade would have made the same spearheads tougher in thrusting mode. Contrarily, the function of a longer shaft in larger specimens could have also been to decrease the whole weight of the spearhead itself, making it effective in both a percussive and throwing mode.

Contrarily, by the Late Bronze Age onwards, there seems to be a more clear-cut distinction between the classes of length, which perhaps indicates an improvement of the potentialities of different types of spearheads. Spearheads different in size are now found within the same hoards (i.e. Pila del Brancon, Piediluco I hoard: Appendix 2: 30, 38), perhaps suggesting the adoption of new military technologies and tactics, which employ specialized spearheads. However, it may be worth noting that similar evidence is also attested in a few Middle Bronze Age hoards (i.e. Cascina Ranza and Oggiono Ello: (9, 32). Importantly, we may argue that these two assemblages are perhaps non-local, however it is worth noting that spearheads differentiated in size – ca. 10 cm and around and over 20 cm - also occur in some terramare sites, although they cannot be considered close contexts as hoards (i.e Casaroldo di Samboseto and San Polo d’Enza: Appendix 2: 17/1-3, 12/1-2)

Lanceolate spearheads with flamed blade are mainly large and toward the end of the Bronze Age very large in size. The shape and the great size of some latest specimens make them unlikely to have been used predominantly in a throwing mode. Contrarily, this design seems more functional in a closer quarters combat. In fact such spearheads may be very effective when pierced and twisted into the flesh, as their wide base would lethally tear the tissues. Moreover, in the majority of the cases they have a medium/long socket that provides a further protection for the wooden shaft against the blows. The fact that these specimens have a long shaft that penetrates the blade up to its tip may be consistent with a lighter held weapon, perhaps also more secure when delivering blows. The evidence of use is also attested by the fact that some of them have more than two peg holes, which were added at some point during the use-life of the spearheads (Appendix 2: 38/16, fig. 294). This might suggest their impressive length and weight required subsequent support and ties, later on in its life. Nevertheless, it may be also possible that some of the very large
specimens were primarily intended for display (i.e. a pristine blade fragment of a very large spearheads from the Piediluco hoard: Appendix 2: 38/1, Fig. 261-262).

**Lanceolate and slightly leaf-shaped spearheads with convergent or convex edges** represent a specific design which flourished during the Recent Bronze Age. The fact that it is represented by either small or large specimens with generally a narrow blade and a long shaft, may indicate that these spearheads were intended to inflict small and deep penetrative wounds, regardless of the function they were intended to perform. In this specific case, it may be also interesting a parallel with the daggers attributed to the end of the Middle – Recent Bronze Age, with which spearheads share some typological characteristics: narrow and stepped blade with sharp edges (Fig.4.9).

One of the reasons behind this may be a cross-over of craft knowledge: indeed, it may be the same smiths making different weapons, drawing on the effectiveness of one to improve the other. It would have helped transfer the qualities of the dagger in a stabbing mode on a wooden shaft to the spear, allowing for a wider range of movement as well the delivery of blows at a larger distance from the opponent.

In contrast to such spearheads with a narrow blade, it is likely that large blades would have opened the wound; they may be used either in a slicing mode or in parrying blows (especially large spearheads) (Martinelli 2004: 99). Accordingly, it is worth noting that some of the Recent-Final Bronze Age **lanceolate spearheads with rounded base** are either small or large in size, with a large blade, a squat shape and a long shaft, though not always. In other words, warriors may have selected an appropriate weapon from a panoply of types, according to the nature of the hunting task or martial encounter. The multiple functions which these designs can perform, may account for their wide distribution over continental Italy (i.e. Type L17 A-B, 21 B-C) as well as for the fact that this shape continued to be used across the three phases of the Bronze Age (i.e. L15- L17A-B – L21 A-D).

In conclusion, although the smaller Middle Bronze Age spears are not very differentiated in terms of shape and size, compared to the more specialized specimens of the later periods, we must acknowledge the fact that spearheads are versatile weapons that can have served multiple functions depending on the situation.
4.4.3. DISTRIBUTION OF SPEARHEAD TYPES

I shall now turn attention to the distribution of the spearhead types in order to synthesize the spatial and temporal characteristic of the production and circulation of spearheads in term of development and transfer of technical skills. In doing so I have elaborated different tables (Table 4.3-9), according to the typo-chronological sequence presented in Appendix 1.1.

The first specimens, which belong to the lanceolate spearheads with sub-triangular blade and rhomboidal, angled base or rounded base, are found in north-west Italy at the beginning of the Middle Bronze Age (Table 4.3.A-B, 4.4.A-B). At this time, decorative motifs on spearheads as well as on other metalwork types (i.e. for the Spatzenhausen type swords in the Cascina Ranza hoard: Vannacci Lunazzi 1973: Tav. 2.16) (Appendix 2: 1) find exact counterparts in Switzerland and Bayer, so that it is possible to suppose a close relationship between the two areas through the mountain passes (Type L 3A). A Carpathic influence is also attested by the finely decorated spearheads found along the Gesso stream:
13, Type L 3A). Nevertheless, this kind of influence, unknown in western regions, is well documented in the terramare area (mostly the actual Emilia Romagna region).

Accordingly, the authors (Gambari and Venturino Gambari 1986: 166) suggested that the import from the Hungarian workshops may have reached the Piedmont region through an east-west axis, the river Tanaro, that played a central role as a natural route between the two areas for long time.

Toward the end of the Middle Bronze Age, we can observe a wider distribution of spearhead types, which now reached north-eastern Italy, and spread throughout the Italian peninsula, though with rare attestations in south Italy (Type 16 B). Some types, characterized by specimens with a rounded base, reveal that besides restricted distributions in the central Po plain (Type 16A, L 14), there seems to be wider connections (Type L 16B) and in particular a link between terramare and the pile-dwelling villages (Type L 15).

By the Recent Bronze onwards, at the increasing number of the spearheads seems to correspond more localized distributions, especially in the area of the terramare (i.e. Types L9-10), but also in central Italy in a later period (Type L21). Rarely, there are also types which maintain a uniform design across adjacent phases of the Bronze Age (types L15, 17A-B, L21). Type 21, that is entirely assigned to the Final Bronze Age, appears prevalently documented in central and southern Italy, with distributions which attest cross-material influences between the two side of the Italian peninsula (Variant L21 A-B) as well as particular concentrations along the upper Tyrrhenian coast (Variant L21 A). Contrarily, the Variant L21 D identified by spearheads with polygonal socket is only found in the Piediluco hoard (Appendix 2: 38, Fig. A.314, 317). The only specimen with angled blade attributed to the Final Bronze Age was found in the tomb 292 in the cemetery of Cà Morta in north-west Italy (Type L 11) (131).

The lanceolate spearheads with slightly flamed and flamed blade are all localized in north-eastern Italy, in particular in the pile-dwelling sites around Lake Garda and Lake Varese (Type 22, 27 A-B) with few attestations in the alpine valleys of the Alto Adige/Südtirol region (Type L 26, 27 A) (Table 4.5.A). Interestingly, these groups are absent in the area of the terramare sites.

By the Recent Bronze Age (Table 4.5.B), the major areas of distribution are the Alpine valleys and the mountain passes of the Alto Adige/ Südtirol as well as a point of the Friuli-Venezia Giulia plain that coincides with the “resurgence line”. Interestingly this district was scarcely provided with lanceolate spearheads with sub-triangular base. Besides
restricted distributions (Type L32 and L29 C: Alto Adige/Südtirol - Friuli-Venezia Giulia; Type L31: Peschiera lake village – terramare area), there are other types, which attest to an inter-regional circulation (Type L29 B: Po plain – Alto Adige/Südtirol; Type L34: Piedmont region – Pusteria valley at the border between south and eastern Tyrol).

Towards the end of the Bronze Age, there is no a great variation between older and new types in terms of both typological features (Table 4.6). Interestingly, although some types have a uniform design: their sub-types or variants seem to respond to local trends (L39 A: northern Italy; L39 B: central Italy; L35 and L40 A-D: central Italy; L36 mainly in southern Italy).

The group of spearheads with convergent edges (Table 4.7.A) is predominantly documented in the Recent Bronze Age onwards. By this period up to the Final Bronze Age 1, the majority of the spearheads are prevalently located in the eastern Po plain (L43, L44 A + α β, L45), in the eastern Alpine valleys and in the Friulian plain (L45, L46 A, L47), while few others are attested in north-western Italy (L43, L44 A, L47). Type L44 is mainly constituted by specimens contained in the Pila del Brancòn hoard (92) and they identify a peculiar group, which becomes more widespread in the following phase of the Final Bronze Age. The overall picture shows that, like the spearheads with flamed blades, this group documents similar dynamics of interaction. Nevertheless, this group of spearheads is only marginally attested in the Middle-Recent Bronze Age terramare site as well as in lake villages. However, this absence may be read more in terms of chronological rather than geographical variation. In fact, the terramare-palafitte system collapsed around 1200 BC (Benabò Brea et alii 1997 b), thus representing a period that coincides with the first distribution of the spearheads with convergent edges (for more details about the chronology of the Pila del Brancòn hoard see Appendix 2: 30).

The group of spearheads with convergent edges reached central and southern Italy toward the Final Bronze Age (Table 4.7.B). While the types attested in this period have only rarely a close link to the earlier specimens (i.e. Type L44 A and L44 B; Type L46 B and L46 A, see also above Type L21), the majority of them have a typical Final Bronze Age design which is not documented before; all of them, but Type L46 B, have limited and discrete distributions, which seem to reflect local trends.

In the case of the slightly leaf-shaped spearheads, the evidence shows that during the Middle Bronze Age intraregional influences are mainly documented in the areas already attested before (Table 4.8.A): the terramare area (i.e. SLS 3 A, 7 A), Veneto lowlands (i.e.
SLS 2, 3 D) and Lake Garda (SLS 3 B). At the same time, it is possible to single out wider distributions, which seem to confirm the networks of influence already mentioned for other categories of spearheads (see for example Table 4.4.A, Type L15; Table 4.5.B, the Recent Bronze Age Type L31). Moreover, two of the spearheads contained in the Oggiono-Ello hoard (SLS 3 A, 7 A) (32) provide once again strong parallels for some specimens in the central Po Plain and in the Veneto lowlands (i.e. Table 4.4.A, Type L16 B; Table 4.8.A, SLS 3 A).

In contrast, spearheads are scarcely attested in the Alpine valleys of Trentino-Alto Adige/ Südtirol and they are virtually absent in the Friulian Plain during the earlier phases of the Bronze Age. At the same time, the two typological groups seem to have different areas of distributions: those with rounded base are mainly concentrated in the Veneto plain, in Lake Garda and to a lesser extent in the terramare area, while those with convergent edges are more evenly distributed.

In the following phases of the Recent and Final Bronze Age (Table 4.8.B), different groups of spearheads are attested, although the majority of them are characterized by convergent edges. The latter come prevalently from the Pila del Brancòn hoard (92) (Type SLS 8), thus from that area previously unprovided with spearheads with convergent edges. They have a quite common design and a wide distribution up to the beginning of the Final Bronze Age (on the basis of the presence of spearheads from the Malpensa hoard: 158).

As far as the leaf-shaped spearheads are considered, it may be worth noting that this category is not attested in the Middle Bronze Age. Table 4.9 seems to confirm some of the considerations already made for other groups of spearheads: the Recent Bronze Age types are mainly documented in north Italy, while in some cases they have a wider distribution (Type LS 2). In contrast, by the Final Bronze Age spearheads with similar features appear to be restricted to particular areas (Type LS 4, 7, 8). Type LS 8 is represented by the Pazhok type spearheads (Lo Schiavo and Peroni 1979), which are well attested in southern Italy (i.e. 122, 137, 172-173). These specimens have exact counterparts in Albania (Bodinaku 1988: 46-49) and they may support the idea of selected and reciprocal contacts with the other side of the Adriatic Sea after the collapse of the Mycenaean system (Pacciarelli 1999; 2001).
TABLE 4.3. Distribution of Lanceolate spearheads. A. Group I; B. Group II A.
TABLE 4.4. Distribution of Lanceolate spearheads: Group II B. A. Middle Bronze Age; B. Recent and Final Bronze Age.
TABLE 4.5. Distribution of Lanceolate spearheads. A. Group III-IV: Middle Bronze Age; B. Group IV: Recent Bronze Age.
TABLE 4.7. Distribution of Lanceolate spearheads: Group V A. A. Middle-Recent Bronze Age; B. Final Bronze Age.
TABLE 4.8. Distribution of Slightly-leaf shaped spearheads. A. Group II B, V A: Middle Bronze Age; B. Group I, II B, III, V A: Recent-Final Bronze Age.
TABLE 4.9. Distribution of Leaf-shaped spearheads. Group V B: Recent-Final Bronze Age.
4.5. DISCUSSION: INTRA-REGIONAL AND LONG-DISTANCE CONTACTS

MIDDLE BRONZE AGE

At the beginning of the Middle Bronze Age (ca.1700), spearheads are dominantly located in north-western Italy. Some of the earlier specimens are lavishly decorated (i.e. Type L 3A, L12: Cascina Ranza hoard (9) and Cuneo-Gesso stream (13); Type L22: Bodio: (4)). Series of bands of engraved lines, superimposed by overturned arcs, is the typical motif that is found on the socket of some of the specimens contained in the extraordinary hoard of Cascina Ranza (Table 2.3, 5.1). Exact counterparts suggest contact with the Swiss Plateau and the Bavarian area through the North Tyrol. In the same way, the spearhead found alongside the Gesso stream (Table 5.2), shows complex decoration on the socket, consisting in upside-down arcs, waves and hatched triangles as well as a “lance” motif on the midrib, which is typical of the metal artefacts contained in the Apa-Hajdúsámson hoards (David 2006: 215, Tafel 1); the decoration and the alloy may indicate a provenance from the Carpathian workshops (Gambari and Venturino Gambari, 1986). The spearhead from the lake village of Bodio (Appendix 1.2: Table 10.2 ) shows bands of engraved lines above the mouth of the socket. This decoration is widely attested in the Danubian Basin and in central Europe (Jacob-Friesen 1967: Tafel 13.2).

As I have already mentioned above, it seems likely that these objects were non-local products. What they have in common is the fact that all of them come from far away and that they are unknown in other coeval Italian contexts. Nevertheless, their distinctive style makes them visual indicators of contacts which go beyond the known cultural boundaries. Their exoticness is undoubtedly a factor that enhanced their value, although the original meaning may have changed in this new context. On the one hand, they may represent valuable and inalienable possessions, distinctive in both their appearance and connection to specific individuals. On the other hand, as I have argued earlier in this thesis (Chapter 2.6) these objects may be symbols of belonging to a particular group and therefore they may stand for a community who prided itself on these distant contacts.

In my opinion the Cascina Ranza hoard represents a good case in point. These objects are representative of a wider network of influences, which involve other metal types, thus indicating a regular long-distance exchange which was long-lasting. For example, the types of axes documented in the hoard are found in other contexts in north Italy. Moreover, the Möhlin type axes are the forerunners of the Ilanz type; this type is also attested among a later group of objects found between Oggiono-Ello (see below) (De
Marinis 1991-1992: 210-211). They may represent a supra-local model in the exchange system. Contrarily, spearheads, but also the Spatzenhausen type sword, have a limited distribution in time and space, suggesting that perhaps they did not inspire a local production in line with foreign styles. Therefore they remain rare and as unique as the practice that ultimately gave them to the ground.

All this evidence allows for some further considerations. A later hoard found in the bog of Avigliana (1) (Table 2.4) contained an undecorated spearhead that is similar to the specimens of the Cascina Ranza included in the Type L3A. This example appears fundamental in understanding that, although the general shape passes on through subsequent phases of the Middle Bronze Age, the decorative motif is a peculiar element that is meaningful only in specific times/occasions. In conclusion, the assemblage of the Cascina Ranza represents a simultaneous act of deposition that put emphasis on collectivity and on its attempt to negotiate intra- or inter-societal relationships. In this sense decorative motifs may be amongst the fundamental indicators of situational identities, whose meaning must be enacted through performance in specific circumstances (Gosden and Marshall 1999: 176).

I believe that in the early phase of the Middle Bronze Age, there are few indications of clear local traditions in the production of spearheads, emerging from the data available.

Toward the end of the Middle Bronze Age the area of distribution of the types of spearheads reached north-eastern Italy, with particular concentrations in the terramare area, the higher and lower plain in Veneto and the pile-dwelling sites of Lake Garda district. In this period, spearheads with convergent edges and short sockets represent a new design and stepped blades a new feature, which will both flourish in the subsequent period. Equally rare in this period is decoration. The technical influences between distant areas are now more intense (Type L5, 6, 15, 16 B, 26, SLS 2, 3 A, 7 A-B). Moreover, some objects attest long-distance networks already witnessed before, which remain stable over centuries. Accordingly, the bronze artefacts from the deposit found between Oggiono and Ello (32) provide a relevant example. While one of the spearheads has no clear parallel in coeval contexts nor derived forms in later periods (Type L 7), the Oggiono type swords, the axes and the Veruno type dagger are characteristic of the north-western Italy (Scamozzina di Albairate culture group), but they also attest links with the Tumulus culture group of central and western Europe (De Marinis 1994: 70). Interestingly, apart from the helmet and the other
spearheads (Type L16B, SLS 3A and 7A), they are found neither in the area of Lake Garda nor in that of the terramare sites.

The archaeological implications that this group of artefacts can have in understanding the dynamics of interaction, appear very important. Domanico (2002: 442) mentioned the fact that the metal used for the objects in the rock fissure at Oggiono-Ello might come from the Austrian mineral district, according to the fact that nickel is only present in traces in the alloy. If this is the case, such production may represent a local attempt to emphasize long-distance contacts, making some objects in line with trends which went beyond regional cultural boundaries. The use of different metal sources may also represent a value-added factor in giving special significance to the objects. A similar conclusion is drawn by Fontijn’s study (2002:109) about some Middle Bronze Age axes from Netherlands, which would have emphasized international contacts, rather than regional identities.

A further interesting case is that of the decorated spearheads from the cemetery of Bellaguarda (2) (Type L42); it can be assigned to a period spanning between the end of the Middle Bronze Age and the subsequent phase of the Recent Bronze Age. It has an exact counterpart in a tomb at Mitopoli (Peloponnese, Greece). Recently, metallographic analyses revealed that both the specimens have been produced in two different places, as isotopic and trace elemental characteristics seem to indicate (Jung 2009: 75). The presence of Italian-style objects in Greece convinced Jung (ibid. 79) to suggest the presence of people from Italy in Mycenaean Greece.

In the examples cited above objects do not only represent a foreign presence, rather they are the means by which also values are passed on. Accordingly, the Italian-style weapons in Greece do not only represent the presence of foreign individuals in the Mycenaean army, but also the affiliation to and the acquisition of a new mode of warfare, which used socketed spearheads and Cetona type swords (ibid. 2009). In other words, objects carried ideological implications which may have helped transform ideas about combat, as well as informing notions of relatedness and identity.

Besides those long-distance contacts, there are more limited and discrete distributions of types (see in particular Type L14, 16 A, SLS 3 D), perhaps according to regional and temporal trends. Those are prevalently located in the central Po plain (terramare area) and in the Lake Garda district and they may represent an attempt to emphasize local identities.
**RECENT BRONZE AGE**

The Recent Bronze Age (Bz D-Ha A1 in central European chronology) is characterized by a conspicuous increase in the production of spearheads. The specimens with decorative motifs are very few, compared with the earlier phases of the Middle Bronze Age. Besides the previous categories and groups of spearheads, which continue to be attested, there are some novelties in terms of development of technical skills, such as the new category of *leaf-shaped (LS)* spearheads as well as markedly flamed and stepped blades, rhomboidal and squared midribs, fillets which run parallel to the cutting edges, straight bases and the characteristic of the midrib that narrows abruptly at the base of the blade. Accordingly, it may be interesting to note that all these new features attested on already existing designs may represent different attempts of exploiting the quality of the metal, rather than true technical novelties. These particular characteristics may represent either practical devices which enhance the effectiveness of the spearheads, or aesthetical elements.

For instance, ogival spearheads may be extremely lethal in a thrusting mode as the larger part of the blade opens the wound and tears the tissues, causing bleeding once withdrawn. Hypothetically, a stepped blade may have reduced the weight of the blade toward the edges, providing a razor-like profile and concurrently maintaining the toughness of the blade in its central portion, where the blade and the midrib conjoin. Moreover, in some of the larger spearheads the stepped blade is associated with a round and thin tip, perhaps indicating that in this specific case they were more effective as held weapons. However, it may be worth noting that Bridgeford (2000: 142) considered multiple steps and other features such as fillets and straight bases of little utility value. Accordingly, they may have also been aesthetical elements on new designs.

The majority of the spearheads assigned to this period come prevalently from *terramare* sites, hoards and scatter finds, which are widely distributed all over the Italian peninsula. It is in this moment that the production of spearheads flourished. The Recent Bronze Age is commonly identified as the period of the *metallurgical koiné*: a flourishing interchange of ideas and artifacts. Besides finished objects, new ideas circulated in terms of transmission of knowledge and know-how, inspiring imitation and creative developments as well as cross-material influences between distant regions. As far as the Italian spearheads are considered, the type contained in the Pila del Brancòn hoard (Type SLS 8) represents the best case in point.
However, more discrete distributions also exist in this period. Particularly interesting is
the alluvial plain of the river Po that provides some of the most active centres in terms of
production of bronzes. Despite this, some designs appear strictly confined within the
boundaries of the terramare area (i.e Type L 9, 10). Metallurgical activity is widely
attested in the terramare sites in the form of instruments to work bronze, as well as
moulds, crucibles and tuyeres (Carancini 1997). By the Recent Bronze Age moulds for
spearheads are found in terramare sites (mainly ophiodite, calcareous stones - see
Giardino 2005 for mould used in earlier periods). Interestingly, the fact that two moulds
for spearheads found at Gorzano (73) have exact bronze counterparts in the neighbouring
terramara of Casinalbo (56) (see also Appendix 2: 20/1) and Redù may suggest close
inter-site relationships and influences.

Equally important is the example of the spearheads with markedly flamed blades,
which appear to have a limited distribution between the alpine valleys of the Alto
Adige/Südtirol and the Friulian plain (Type L29 C, 32). Interestingly, this is the only area
where spearheads with the midrib that narrows abruptly at the base of the blade, are
distributed. There are also other contacts between Trentino-Alto Adige/Südtirol and other
areas (Type L6, L8, L29, L34, L45, L47).

The sharp increase in the number of spearheads in the east Alpine region may be
explained by the fact that this area is rich in metal deposits (Valsugana district in
particular), which can be dated to thirteenth-eleventh century BC (Marzatico 1997;
Giardino 2005). Accordingly, the exploitation of the metal of the eastern district can be a
reasonable factor in justifying the interest toward this region. At the same time,
chalcopyrite ores are also present in the Appennine (actual province of Modena and
Reggio Emilia), thus the area densely occupied by the terramare sites. This may explain
the evidence of metallurgical activity found in many settlements as well as the specialized
production and excellent execution of metal artifacts. However, Giardino suggested the
possibility that “the great metallurgical production of the Terramare culture was also based
on imports, possibly from the East Alpine regions” (2005: 493). The constant lack of
direct links between the two regions, at least as far as the typology of spearheads is
concerned, may signify that the design of spearheads was likely to follow local trends,
which better identified group identities.
The majority of the types assigned to the Final Bronze Age (Hallstatt A-B1 in central European chronology) concerns lanceolate spearheads with flamed blade and convergent edges, although all the categories and groups of spearheads previously attested continue to be documented. Some of the ways in designing spearheads are kept over an extended length of time and in the majority of the cases Final Bronze Age shapes rely upon the Recent Bronze Age (Type SLS 8; Type 44 A – 44 B; 46 A – 46 B; SLS 5 A – 5 B; LS 2 – 4,5). Contrarily, they only rarely developed from Middle Bronze Age types (Type L 15 – 17 A-B – 21 A-D; SLS 2 – 4) or continue up to the early Iron Age (Type LS 8). Apart from the cases of longevity, there are some features which are only attested by the Final Bronze Age (i.e. spearheads with polygonal socket).

The great majority of the spearheads assigned to this period come prevalently from hoards. Overall, it is possible to highlight a shift from a north Italy-dominated distribution toward a central and southern Italy concentration. The fact that the Final Bronze Age types include a larger number of specimens than the Middle-Recent Bronze Age types, may indicate a sort of “standardization” in the ways spearheads were designed. Despite similar shapes, there are differentiated according to local trends (i.e. Type L35, 48 A, 49, 51, 52 A-B; SLS 5 B, 12, 13; LS 6, 7); contrarily other types are widely distributed (i.e. Type L40 A-D and L21 B-D; L21 and LS 4).

The “Pazhok” type spearheads from the cemetery at Oppido Mamertina (172, 173) is another interesting case. The spearheads are not the only objects representing direct contacts between the two sides of the Adriatic sea, but other metalwork types (i.e. golden spirals, “Dukat” type brooches) as well as the funerary practices may indicate the presence of alliances and marriages, resulting in movement of people across the Adriatic coasts (Pacciarelli 2001: 198-199). The individuals buried with “Pazhok” spears are believed to be members of such warrior elites (ibid. 200, T. 1929, Fig. 112.2).

This evidence is central in order to inform us about the symbolic dimension of objects. The Pazhok type spearheads may represent the mourners’ desire to reaffirm their position within the society by manifesting their identity. This period represents the outset of consistent changes in the form of weaponry, with spearheads becoming the principal and most common weapon. Instead of individual warriors, the novel tactic may have employed rank and file fighters under the command of war leaders. Forging new alliances with war leaders (perhaps through marriages) would have been a way to supply the increasing number of warriors in the army and at the same time it would have replaced the more
traditional kin relationships. Interestingly, the full adaptation to a new context seems to be confirmed by the fact that similar spearheads are also found in two tombs of the Iron Age cemetery at Torre Galli (Calabria) (Pacciarelli 1999: 58, Fig. 84.5, 158.3). There is a possibility that one of the tombs (T.120), containing a complex set of grave goods, belongs to an infant or very young individual: this consideration does not rely on osteological analysis, but on the basis of the grave-goods, and thus the author also posits these grave goods might represent someone with a subordinate role. In either case, it suggests that the original values of group identities are maintained and transmitted through time.

It is worth noting that also in this case there may be a close link between the increasing number of spearheads in central Italy and the location of the mineral ore deposits in southern Etruria (Monti della Tofla) (i.e. hoards containing spearheads: Santa Marinella (185). See also Coste del Marano and Monte Rovello hoards: Peroni 1961b; hoard held to the “Pigorini Museum”: Pellegrini 1989) and in northern Tuscany (Colline Metallifere, Argentario and Elba Isle) (hoards containing spearheads: Limone (154), Colle le Banche (135), Goluzzo (149), Campese and Elba Isle (133, 140); see also Pariana hoard: Cateni 1984). It is likely that the Late Bronze Age deposits of Monti della Tofla were replaced by those in northern Tuscany towards the end of the Final Bronze Age and the beginning of the early Iron Age (Giardino 2005: 495). As a matter of fact, the drastic change may be also due to the urbanization process, which in the southern area may have begun earlier than in the northern Tuscany (Pellegrini 1995: 28).

In conclusion, it may be worth noting that the distribution of spearheads across the Bronze Age reveals either wider or more discrete circulations. I have shown how some designs may have represented group identities, while others there is a sense of a stronger alignment to super-regional connections, especially in the earlier phases of the Bronze Age. I have also discussed the fact that by the Recent Bronze Age inter-regional designs may reflect the acquisition of similar modes of warfare. Despite this, the necessity to differentiate spearheads according to local trends, may impinge on the role of spearheads in terms of manifest indicators of collective identities.
5. CONTEXTS OF FINDS AND ASSOCIATIONS OF BRONZE AGE SPEARHEADS WITH OTHER METALWORK TYPES

(All the findspots mentioned in the text are distinguished by a number in a bracket, that corresponds to that assigned in Appendix 1. Accordingly all the geographical and bibliographic information will be included in the Appendix and not repeated here. In the case of spearheads from contexts selected for use wear-examination, the number used will be that given to it in Appendix 2)

Before turning attention to the context of deposition of the Italian spearheads, it is important to consider the fundamental issue of the association between spearheads and other metalwork types in different contexts. The reasons why such objects have entered the archaeological record after being taken out from circulation are diverse, and mainly relate to the different attitudes of individuals and communities towards metalwork. In the specific case of hoards, multiple/single depositions and graves, it has been long acknowledged that patterns of regular associations exist between different object types. For example, the recurrent exclusion of spearheads from tombs up to the advanced phase of the Final Bronze Age, and their frequent association with axes and sickles in hoards, for example, provides on instance of a principle or rule which may have guided ideas about the appropriate deposition of spears. Below, I will illustrate the major contexts in which spearheads are combined with other classes of objects.

5.1. SETTLEMENTS

A conspicuous amount of spearheads from settlement sites can be attributed to the Middle and Recent Bronze Age (ca. 41), while few examples occur in the subsequent phase of the Final Bronze Age (ca. 7) (cfr. Fig. 6.1, 5) Apart from rare cases, spearheads retrieved from settlements are often poorly contextualised (usually due to the date and circumstances of recovery, during marl extraction or gravel quarrying - see Chapter 3.1).

The exceptions are rare. One spearhead and an arrowhead were found at Coppa Nevigata in layer 3-Trench A- 1955 (64) (Cazzella and Moscoloni 1987: 180, Fig. 90.13), while another one derived from Trench 1, found in 1904 (65). A recent revision of this stratigraphic location revealed that the spearhead was found under a beaten earth floor, which sealed different phases of the Recent Bronze Age (Belardelli 1998: 477). A clay loom weight, a fictile statuette, a lid with a small central handle, fragments of a stove, a
small dagger, an arrowhead and a small ring were found in the same layer, although the stratigraphic relation between these objects remains unknown.

Recently, a second example has been examined by Rubat Borel (2010), who attempted an interpretation of the bronze artefacts found at Viverone (Vi 1-Emissario: 50): a pile dwelling site located on the shoreline of the homonymous morenic lake in northern Piedmont. The author reviewed a collection made by an amateur diver, G. Giolotto, who conducted campaigns in the village in the seventies. Giolotto provided a planimetric sketch with a grid of squares of 5x5 metres, in which he mapped the position of the metal finds picked up from the bed of the lake (Fig. 5.1.1). Rubat Borel laid the schematic drawing of the finds and the archaeological plan of the village one upon the other in order to estimate the hypothetical perimeter of the houses. In this way, the author noted that certain associations between different metalwork types were recurrent (Fig. 5.1.2). However, the author acknowledged a number of constraints about this reconstruction: the lack of dendrochronological dates, post-depositional processes which may have altered the original positions of the objects (i.e. the water flow rate) and the fact that the associations rely on the presence of different objects in the same 5x5 m square so that two objects at its extreme ends would be at 7 metres from one to the other.

Being aware of all these factors, the author singled out a ‘warrior’ set (dominated by axes, associated with daggers or spearheads) and female parures (matching sets of jewellery or other ornaments) mainly constituted by breast ornaments (small pendants with central studs) and pins. These particular combinations are very similar to those found in male and female graves in the Schwäbische Alb, which belong to the western Tumulus culture groups (*ibid.* 378). This evidence seems to contrast with that of the Po Plain, where the sword is *par excellence* the weapon of the warrior, at least according to the data from the cemeteries where weapons have been found (i.e. Olmo di Nogara: Salzani 2005c). The author was also concerned at the difficulties in finding a reasonable explanation for the abundance of metal objects (ca. 200) left in the settlement site, which are very unlikely to have resulted solely from accidental losses. In conclusion, he supposed the existence of store-houses or specific areas within the houses, where the weapons could have been kept safe and ready for use. Hypothetically, the bronzes went astray when, owing to the transgression of the water of the lake, the site was suddenly inundated and abandoned.

If Rubat Borel’s reconstruction is correct, the perimeter of the supposed houses would have mostly occupied the eastern and south-western part of the site, while the portion
closer to the main entrance would have had no structures. On the one hand, according to his interpretation, we would have huts dominated by male-only associations (squares: 60, 49, 36) and other ones with female-only objects (squares: 27, 28, 30). As for the latter, they also contain axes with a broad cutting edge, which the author did not include within the male sets as they are considered tools on the basis of typological parallels (squares 29, 32). Meanwhile, there is a zone with no apparent structures in which can be found a mix of both male and female objects.

The village is surrounded by two fences, composed by parallels rows of piles. Unfortunately, at present it is not possible to know whether they are coeval or not due to the lack of dendro-chronological dates. Furthermore, a central corridor runs along a north/east-south/west axis, dividing the space into two parts. Rubat Borel’s idea of store-houses or places within the houses where personal belongings (ornaments and weapons) were stored represents a reasonable way to explain the abundance of metalwork from the site. His considerations may be also extended to other similar situations. However, this interpretation concerns the groups of objects within the “houses”, but what about those bronzes outside? Whilst the perimeter of the houses is hypothetical in his model, the fences surrounding the village as well as the central corridor have, at least, been archaeologically ascertained.

Also the hypothetical associations are problematic as they rely on the presence of objects within the same squares. Nevertheless, we must consider that the original position of the objects would not be drastically altered as the only subsequent cause of disturbance is an artificial canal built at the end of the fifteenth century, which does not seem to have caused substantial damage to the structures (Rubat Borel personal communication). Nor can fishing be practiced there, because the piles would tear the nets (ibid. 379). This suggests a secure context which reflects real depositional practices in prehistory. With all these considerations and problems in mind, it is worth reviewing this interpretation.

Considering the eight spearheads positioned in Giolitto’s grid and confronting them with Rubat Borel’s reconstruction, it is possible to notice that all, but perhaps one of them (spear in square 11), occur within the area without structures. Apart from two (squares 152, 147), the other six spearheads are quite isolated, compared with the distribution of the main groupings: one spearhead (square 134) is located on the central corridor in front of one of the hypothetical houses; one spearhead and an axe (square 112) are located on the central corridor, just outside the settlement, while another one is in an area outside the site on the left side of the corridor (square 115). Another two spearheads (square 118) are on the right side of the main entrance and they may be linked with the two fences which
encircle the site. Whether the fences are coeval or not, the position of the two spearheads in potential connection with them assumes intriguing connotations; not far from the two spearheads, there is an axe with broad edge (square 1).

I believe that the position of the spearheads cited so far (as well as that of some axes) may not be casual: they are in open space but often closely related to boundaries. This kind of deposition suggests a degree of ritualised prescription on where such offerings or deposits might be made within domestic space (see further discussion below in 5.5.1).

5.2. HOARDS AND MULTIPLE DEPOSITIONS

In the last few decades it has been recognized that there may be normative associations between metalwork types in specific contexts. For example, Needham (1988) identified patterns of association in hoards and graves in British Early Bronze Age, noting that halberds, axes and spearheads are rarely attested in graves. Spearheads are also uncommon in hoards and in the cases documented they recur with axes, daggers and small tools. However, the author stressed the fact that there is not always unequivocal evidence that such hoard compositions may have represented a purposeful pattern, instead, he suggests, they might reflect changes in metalwork organization. In a similar vein, Verlaeckt (1998) has pointed out that casting jets do not occur with metal scraps, while axes and sickles are frequently associated in Danish hoards.

In the field of Italian prehistoric metalwork, these kinds of studies are uncommon and they still receive little consideration. Carancini’s study of Italian metallurgy (2004) identified that different traditions may have regulated the deposition of metalwork across adjacent phases of the Italian Bronze Age, which in turn could have taken precedence over pre-existing ones. Therefore, while the early Bronze Age seems to be characterized by weapon-, neckring- and bun ingot only-hoards, the later phases saw the multiplication of the metalwork classes included in hoards. However, the author did not single out any particular gradation of associations between the major classes.

The total amount of the hoards in continental Italy is ca. 130. They are unevenly distributed across the Bronze Age: 43% of the hoards are attributed to the Early Bronze Age, 6% to the Middle Bronze Age, 15% to the Recent Bronze Age and the remaining 36% to the Final Bronze Age. Five broad classes have been recognized: axes, weapons, tools, ingots and ornaments. The ‘weapons’ category includes halberds, daggers, spearheads, swords, arrowheads and defensive armour; ‘tools’, mainly including knives, razors, shovels, chisels, sickles, whilst ‘ornaments’ include - in the majority of the cases -
neckrings, bracelets, armlets, pins and brooches. The following four charts plot the composition of the hoards, according to the different classes of objects which made up the deposits, as well as their geographical variation (Fig. 5.2-5).

During the Early Bronze Age (Fig. 5.2), the majority of the hoards contains a single metalwork type and among them axes dominate the hoard record. They occur prevalently in central-western Italy, in the area of the Tuscan mineral districts and southern Italy, though the other zones are moderately provided for. The 4 ingot-only hoards are concentrated in central western Italy, while weapon-only hoards, mainly daggers and halberds, have a wider distribution, though they provide a discrete figure, compared with that of the axes. The three ornament-only hoards are attested in northern Italy. Tools, either alone or in association with other metalwork types, never occur in hoards.

By the Middle Bronze Age (Fig. 5.3) spearheads and swords were constantly included in hoard assemblages (mainly spearheads, but also swords) and graves (mainly swords and very rarely spearheads). In fact the majority of the spearheads recorded in this phase come from an exceptional axe-weapon hoard, Cascina Ranza (9). The number of the hoards recorded from this period, are dramatically reduced, compared with the previous phase. Axes are still the dominant type in single hoards in north and central-western Italy. Meanwhile, mixed hoards occur in north-western Italy, and weapons with axes are by far the most regular types, followed by weapons with ornaments, and (less commonly) weapons with ingots.

The following period of the Recent Bronze Age (Fig. 5.4) marks a break with the preceding phase, heralding a situation that becomes common in the Final Bronze Age. One class-only hoards occur rarely in this period, whilst mixed hoards represent the regular practice. The great majority of them are located in north-eastern Italy. Among the mixed hoards with 2 classes of objects, weapons and to a lesser extent tools, are the dominant types, associated in turn with axes, ornament or ingots. There are also many mixed hoards with 3 classes of objects. Amongst assemblages consisting in 4 metalwork types, the combination of weapons and tools in association with ingots and axes is the most frequent in the north Italy. Ornaments have a more discrete frequency. Sets which combine 5 metalwork types occur only in north Italy.

The Final Bronze age (Fig. 5.5) shows a shift from a north Italy-dominated distribution toward a concentration in central and southern Italy. In this period, the number of the hoards containing more than 2 metalwork types increases by far. However, axe-only hoards are dominant in central and southern Italy, while ingots- and ornament-only hoards are more common in northern Italy. The assemblages combining 2 metalwork types are
characterised by tools/ingots, concentrated in north Italy, and axes concentrated in central and southern Italy. They both dwarf the role that weapons played in previous periods in hoard composition. In central western Italy, ornaments become a regular type in hoard assemblages, which appear to have a more mixed composition in terms of ‘gendered’ artefacts (e.g. the frequent inclusion of simple arc brooches, nails). Tools continue to be standard hoard accompaniments in all the areas considered. Ingots, apart from one instance, are a subordinate type in southern hoard assemblages.

This brief synthesis has been necessary to introduce a more in-depth discussion about hoards containing spearheads. The following analysis focuses on the more common associations between this implement and other metalwork classes in Bronze Age hoards within continental Italy. I have considered all the metalwork classes mentioned above, but I have recorded ingots, metal buns, moulds and slag under a general “Metallurgical activity” heading.

The record of association presented in Table 5.1 reveals that by the Middle Bronze Age onwards, spearheads occur in twenty-seven hoards (I have excluded from the list Manduria (159), and S. Francesco (184) hoards, because there is insufficient analysis and publication of the artefacts contained within them). The 27 mixed hoards have been divided into a weapons dominated set, an axe/tool dominated set (further divided into an axe dominated set and a tool/ingot dominated set) and an ornament dominated set. Interestingly, spearheads never occur alone, but only in mixed hoards. Axes are overwhelmingly associated with spearheads (92% of the cases documented) and this pattern shows continuity across the Bronze Age. As has been noted above, spearheads as well as axes only occur rarely in funerary contests during the earlier phases of the Bronze Age. Other dominant metalwork types, which are present 16 times in hoards, are sickles and chisels. By the Recent Bronze Age onwards, hammers, knives, razors and shovels constitute subordinate metalwork types. Amongst the weapons, swords appear quite commonly associated with spearheads, while daggers provide a discrete figure in the hoard record, occurring in 1/5 of all the hoards. In contrast to spears, these weapons occur more frequently in funerary contexts during the Middle Bronze Age. Arrowheads are exceptionally rare in hoards, being attested in only 3 instances. By the end of the Recent Bronze Age, defensive armour (helmet, greaves, corset, gorget) have a low but significant frequency in hoards. As far as ornaments are concerned, fibulae (a novel type in the Recent Bronze Age) occur in more than half the hoards. Amongst the ornaments, pins, bracelets, neckrings and pendants are also recorded, though to a lesser extent. Metallurgical craft activity is represented by ingots and metal buns, which are attested in
approximately half of the hoards, while slag and moulds are poorly documented: the primary product of smelting is thus well represented but the by-products or equipment of production are not.

The 27 hoards can be split into 5 different categories, according to the number of metalwork types contained in them (from 2 to 5 classes). Among the 4 hoards constituted by only 2 classes, the association of weapons-axes recur 2 times in weapon-dominated sets. For example, the Middle Bronze age hoard at Cascina Ranza (North-West) is made up by a significant number of complete axes, broken swords and spearheads (9) (Appendix 2:1). The riverine Pila del Brancòn hoard (North-East), which belongs to an advanced phase of the Recent Bronze Age (perhaps Final Bronze Age), contains offensive weapons and pieces of armour as well as a Kurd type *situla* (92) (Appendix 2:30). The same associations occur in an axe-dominated assemblage (Avigliana hoard: 1), while in one case a hoard is made up by one spearhead and a pair of sickles (Rhèmes-Saint-Georges hoard: 98).

Four hoards constituted by 3 classes of objects show contrasting combinations. In 2 instances spearheads dominate the record. The “unknown provenance” hoard (probably a cave in south Italy: 121) is mainly made up by spearheads (among them some with casting flaws), as well as four greaves, a chisel, an ‘as-cast’ axe and sickle, while another axe shows evidence of use (Tizzoni 1984). The Sassello hoard in north-west Italy (103) (Recent, perhaps Final Bronze Age 1) contains 4 spearheads and 2 fragments of swords as well as a Scoglio del Tono type razor, a probable knife blade and an ingot (Gambari and Venturino Gambari 1994). Axes the predominant class in only one example, and here they are associated with weapons (a dagger blade and a spearhead) as well as ornaments (a *fibula* with helicoidal arc) (Elba Isle – Tuscany: 140). The Gerocarne hoard in southern Italy (71) is made up by 2 fragments of spearheads (a socket and a blade), 2 axes and 1 ingot (Nava 1977-80).

Among the 9 hoards constituted by 4 classes, in only 1 case are weapons the dominant class. The Final Bronze Age hoard found at Malpensa (158) is located on a paleo-terrace of the river Ticino and the spearheads included in it appear unworn; in contrast, the ingots, the sickle and the axe are broken and the greaves folded up (Mira Bonomi 1978; De Marinis 1979). In another example the hoard composition includes all the classes apart from ingots (Monte Primo: 167), with axes as the dominant artefact type. The 3 out of 4 hoards in north Italy in which tools and ingots are the dominant class do not contain ornaments, and this pattern is also attested in hoards with three metalwork types (Merlara:
In contrast, the Gradisca sul Cosa hoard in north-east Italy (74) contains 2 groups of objects of slightly different date, possibly suggesting curation or separate sequences of deposition. Among the earlier artefacts (dating to the advanced phase of the Final Bronze Age) there is a fragment of a pin, while a fragment of serpentine fibula is among the later group of objects (8th - 7th century BC). Three hoards in central Italy include ornaments. According to the finders, the Limone hoard (154) was made up by distinct groups of objects, perhaps surrounded by circles of stones (Cateni 1977: 4). One archival note suggests this hoard was found in a cave, and according to the Museum catalogue, there was an original distinction between a first group made up from tools and weapons, a second group in which ornaments were the dominant class, and two more assemblages. Unfortunately it was not possible to ascertain the circumstances of the recovery so that this author has followed (with reservations) the reconstruction of a previous scholar (Callegari 1977: 5). Callegari suggests that 3 out of 4 groups were part of the same assemblage (hoard 1) as fragments of the same object which show modern damage, were found in different ‘groups’. However, these objects are not further specified (ibid. 5). The objects of the second hoard were kept separate because they showed a different patina and because the objects were attributed to a later period: the Iron Age. Leaving aside the latter, the former hoard contains, along with tools, spearheads and a miniature knife, a conspicuous number of fibulae, armrings and pins. The Santa Marinella hoard (185) contains fibulae along with a Huelva type sword, axes, knifes, tools (chisels and sickles) and metal sheets (Bastianelli 1934). The Campese hoard (Giglio Isle: 133) contained a massive helicoidal neckring along with axes, a spearhead and a chisel (Bizzarri 1965).

The last 10 hoards are made up by 5 classes of objects. In 3 occasions axes are the dominant types. Among the axe-dominated hoards, the mixed hoard of Goluzzo was found within a layer of ash and charcoal (Orsi 1887). The southern Italian hoard found “at south of Capo Cimiti” (122) is made up by intentionally broken objects; some of them appearing fresh from manufacture as they have casting burrs, which have been not removed (Marino 1995). According to the typology outlined above, the spearheads contained in the Capo Cimiti hoard can be attributed to the Pazhok type (Lo Schiavo and Peroni 1979), which is unknown in central Italy, but well attested in southern Italy (i.e. Oppido Mamertina cemetery, see Pacciarelli 2001: 199, Fig. 112.2, 114.6) and in Albania (Bodinaku 1988: 46-49). The spearheads found in the axe-dominated hoard of Piediluco I (179) have closer parallels in other hoards in central Italy (i.e. Appendix 1.1: Type 40 A-D). Interestingly, 2
objects wrapped in metal sheets were found respectively in the Piediluco I hoard and in the Aprilia Rimessone (124) hoard (a miniature razor or shovel).

In 3 instances tools are the dominant classes (Pinerolo: 93; Casalecchio: 134; Frattesina: 143). A number of hoards were found in the settlement site of Frattesina in north-eastern Italy. Only one of them contained part of a spearhead blade along with other objects, which in some instances appear fused together by heat.

In 3 other occasions fibulae and armlets are the dominant classes. A mixed hoard was found at Colle le Banche (135) on the slope of the homonymous hill (Tuscany). It contains an abundance of bodily ornaments - worn and broken. There is only one complete spearhead, while the other two are broken. The mixed hoard of Aprilia Rimessone (mentioned above) in central Italy contains a miniature razor or shovel wrapped in a metal sheet, that is very similar to another miniature object found in the Contigliano/Piediluco II hoard (Delpino, Fugazzola Delpino 1979: 439) (136). In only one case are spearheads the dominant class (Poggio Berni: 180).

Taking into account chronological and geographical variations, a number of conclusions can be drawn. In the course of the Middle Bronze Age, the two hoards documented are exclusively distributed in north-west Italy. As far as the composition is concerned, axes dominate in one occasion and weapons, in particular spearheads, in the other. The analysis indicates a shift (from the Middle Bronze Age and Recent Bronze Age, up to the Final Bronze Age 1) from a north-western dominated distribution to a concentration of hoards in the north-east. Tools seem to dominate the hoard compositions in north-eastern Italy, though there is still evidence of weapons hoards in both north-western and north-eastern Italy. By the Final Bronze Age, the situation appears to have changed: there is a shift from a north Italy dominated distribution toward a central and southern Italy dominated concentration. In the latter area there seem to be a preference for axes and ornaments. Weapons and tools remain the dominant types in north-Italy hoards. A weapons hoard is also attested in the south of Italy.

Turning attention to multiple depositions, the association of spearheads with other artefacts - deposited in special places over an extended period of time - occurs only in 3 examples. The multiple deposition found between Oggiono and Ello (32) has been attributed to the latest phase of the Middle Bronze Age (De Marinis 1994: 59-70). The full assemblage was found at 60 cm underground in a rock fissure. The fact that the bronze
objects (mostly weapons) and human (tibia and probably fragments of skulls) and animal bones were not found simultaneously, but at different depths in the ground, led Frontini (2001:117) to conclude that the objects were deliberately given up in this distinctive natural feature over an extended period of time. The objects recovered include 2 swords (one of them bent), 2 daggers, 2 axes, 4 spearheads, 1 helmet, 6 fragments of bronze sheet, and human and animal bones (the latter two categories of material have been sadly lost or discarded).

A number of metal objects were recovered at Corte Lazise in an area (75 m x 15) that corresponds to the river bank (78). The metal finds in this wet place can be assigned to the Recent and Final Bronze Age on typological grounds (Salzani 2006), suggesting that the area was regularly frequented and that the objects were given up over an extended period of time. The typological analysis of the material revealed variation in the composition of the deposit from the Recent to the Final Bronze Age. Whilst 5 swords, 3 daggers, 6 knives, 1 arrowhead and 6 pins can be attributed to the Recent Bronze Age, 3

![Hoarding Composition: Early Bronze Age](image)

**FIG. 5.2.** Hoard composition Early Bronze Age. Key: X axis: association between different metalwork types (A: Axes; W: Weapon; T or I: Tools or Ingots; O: Ornaments; 5 CL: Five classes); Y axis: Number of hoards; NW: north-west; NE: north-east; CW: central-west; CE: central-east; S: south of Italy.
FIG. 5.3. Hoard composition Middle Bronze Age. Key: X axis: association between different metalwork types (A: Axes; W: Weapon; T or I: Tools or Ingots; O: Ornaments; 5 CL: Five classes); Y axis: Number of hoards; NW: north-west; NE: north-east; CW: central-west; CE: central-east; S: south of Italy.

FIG. 5.4. Hoard composition Recent Bronze Age. Key: X axis: association between different metalwork types (A: Axes; W: Weapon; T or I: Tools or Ingots; O: Ornaments; 5 CL: Five classes); Y axis: Number of hoards; NW: north-west; NE: north-east; CW: central-west; CE: central-east; S: south of Italy.
FIG. 5.5. Hoard composition Final Bronze Age. Key: X axis: association between different metalwork types (A: Axes; W: Weapon; T or I: Tools or Ingots; O: Ornaments; 5 CL: Five classes); Y axis: Number of hoards; NW: north-west; NE: north-east; CW: central-west; CE: central-east; S: south of Italy.
<table>
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<th>ORNAMENTS</th>
<th>TOOLS</th>
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TABLE. 5.1. Association of metalwork types in Bronze Age hoards in Italy. Key: x = presence of the metalwork type; X = dominant metalwork type/s in the hoard assemblage.
pins, 6 razors, 1 fibula, 1 tweezers 4 buttons and 3 cylinders made of bronze sheet can be assigned to the Final Bronze Age; 2 studs and 2 beads (possibly a composite item of personal decoration but not elements of a necklace: *ibid.* 33) are not determinable, while the spearhead may be dated to the Recent-early Final Bronze Age. On the basis of the chronology proposed, it may be possible to distinguish between an earlier assemblage with a strong martial connotation and a later one that mainly includes ornaments and tools for the bodily care, although swords are still present, perhaps as part of the final embellishment of a male body.

The spearheads recovered in the Pertosa Caves (Campania) range between the Recent and Final Bronze Age. The re-interpretation of both the archaeological campaigns conducted between the end of the nineteenth century and the beginning of the twentieth century (Patroni 1900; Carucci 1907; for further bibliography see Rellini 1916; for more recent contributions see Kilian 1963-1964; Trucco 1991-1992; atti BR) and the material evidence (Trucco 1991-1992) reveals that the cave was occasionally frequented from the Late Neolithic to the beginning of the Bronze Age, with a peak in the Middle Bronze Age; a subsequent drop in activity lasted up to the Early Iron Age, while a new period of deposition can be attested in the Hellenistic period.

The votive deposit external to the cave system (*stipe esterna*) (Rellini 1916) was found in the area of the underground lake, just after the main entrance. Its chronological range is shorter than that inside the cave (middle phase of the Middle Bronze Age to the Final Bronze Age) and somewhat different; yet the majority of the artefacts and ceramic vessels which made up the votive deposit mostly belong to the Recent and the Final Bronze Age, which interestingly appear to be the least attested phases within the cave (Trucco 1991-1992: 474). Trucco (*ibid.* 474) noted that during the Middle Bronze Age there is a difference in the composition of the two deposits. In fact, the pottery found in the *stipe esterna* are mostly open shapes, suggesting drinking vessels for example. In addition, while in the Middle Bronze Age weapons are dominant (daggers, a swords and an axe), in the later phases an increased number of metalwork types is attested: weapons, ornaments (*fibulae*, pins), tools (knifes, razors, axes). The spearheads can be attributed either to the Recent or Final Bronze Age in typological grounds (cf. 89, 178).

**5.3. GRAVES**

Although the evidence of spearheads deposited in graves in continental Italy is meagre up to the early phase of the Final Bronze Age, it is possible to single out some rare
exceptions. During the Middle Bronze Age, only 4 spearheads were found in cremation burials:

- Palazzo – Cologno al Serio (35), attributed to the Scamozzina di Albairate group (Mantovani 1884; De Marinis 1972: 92);
- Fenile Belasi (15), perhaps a tumulus burial (De Marinis, Salzani 1997: 707);
- Bellaguarda (2), attributed to the Terramare cultural group (Parazzi 1900);
- Montata (28), attributed to the Terramare cultural group (Cardarelli, Tirabassi 1997).

All of these burials contained an urn, within which were held the cremated bones of the deceased. Further details about the position of the objects within the grave are available in only two cases. In one instance (Bellaguarda) the spearhead was found *inside* the urn, leaning on the rim. It represents the only grave-good. In another instance (Palazzo), an urn containing 7 fragments of a sword was found by workers in 1882. A few months after, further pieces of the sword and a spearhead were found in the same spot, indicating that perhaps the spearhead was not included in the urn. Osteological analyses of the cremations are sadly not available.

Whilst spearheads appear to have a subordinate role in the funerary rituals, swords are frequently attested in this phase (cf. below 6.6). It is important to note that at present, their abundance should be not read in terms of a wide geographical distribution, but as a particular concentration in some cemeteries and isolated tombs in northern Italy. They also represent the primary accompaniment of individuals who buried in caves in south Italy. Meanwhile, the lack of funerary evidence from the area of the lake-dwelling sites represents a problem which is still unsolved. Yet the evidence from the western Po Plain and the higher and lower Veneto plain is more abundant. In the former region, swords have been recorded in graves, attributed to the Middle-Recent Bronze Age culture groups of Scamozzina-Monza (i.e Alba cemetery-Piedmont: Gambari 2004: 54; Palazzo, Monza, near Crema?, Cattabrega di Crescenzo, Vigevano or San Vittore della Sforzesca-Lombardy: cited in De Marinis 1972, see also Pearce 1998). In the latter area, discoveries since the 1960s have greatly increased the number of cemeteries now known. A contrast can be drawn between those graves characterized by sword-burials in the western part of the Veneto plain (Gambalò di Povegliano: Peroni 1963 b; Cupitò 2004, 2006; Nogara, contrada Olmo: Salzani 2005 c; Gazzo-Coazze: Salzani 1999; Ostiglia-Ponte Molino: Peroni 1963 b; Roncoferraro: Rittatore Vonwiller 1961), and others in the eastern plain, where swords are not attested (i.e. Franzine Nuove: Aspes 1973, 1997; Aspes, Fasani 1968; Bovolone: Salzani 1983-84; Scalvinetto: Salzani 1994).
Due to these recent discoveries which paint a more representative picture, this patterning does seem to be ‘real’ rather than a product of archaeological visibility or research bias (Salzani 2005 c: 308-313; Cupitò 2006: 39; De Marinis and Salzani 1997: 703-707). All the cemeteries of sword-bearer graves, except for Roncoferraro, are located along the river Tartaro. Most information comes from the extensively excavated cemetery of Olmo di Nogara and from the concentration of tombs at Povegliano. In both cases, inhumations outnumber cremations. Forty-three swords have been found at the Olmo di Nogara cemetery, concentrated in different nucleuses both in area B and C. Within each nucleus there are both male sword-bearers and female burials, which have been interpreted as evidence of a society organized in pyramidal clans with emerging social segments, in which gender was another defining aspect of identity. In such a society, the transmission of power supposedly relied upon kin ties, and the fact that some swords are associated with individuals with hereditary diseases which distinguished them from birth might favour this explanation (Cupitò and Leonardi 2005 a: 489; for a different view see Brück 2006 a and Chapter 2.3). However, it may be worth noting that there are other arguments, which support a different view. Although the authors interpret the presence of swords as prestige objects which represent the status symbol of emerging elites, many graves do not have other grave-goods apart from the sword. In most of the cases swords are deposited with male mature (48%) and senior (12%) individuals, who may have already passed the warrior stage. In contrast, individuals we might expect to be in the prime of their ‘warrior status’, around 31-40 years old (Adult II) represent only 10% of these figures, whilst in only 6 cases younger male adults (ca. 19-30 years old) have been buried with swords. Among them 5 individuals were not in an advanced stage of adulthood. In seven cases the anthropological determinations could not ascertain the exact age at death and the deceased were generally identified as adults. Young individuals (ca. 13-18 years old) are never associated with swords but young adults are more likely to have only a sword and in one case a sword and a dagger (Tb. 33). Daggers are more common among mature and senior individuals. The association sword – decorative nails (perhaps belonging to the residue of organic head-gear? placed on the side of the head) is more frequent among adult, mature and senior individuals, but never with younger adults. Pottery is prevalently associated with mature and senior individuals, who however seem to have more complex association of objects.

In general the analysis of grave-goods reveals a distribution of objects which is dependent upon both age and gender in Area B and C (De Angelis 2005: 456), which seems in contrast with interpretations made by Cupitò and Leonardi (2005 b). However,
there are also cases of pairs of tombs with individuals of the same age, which have been interpreted as couples. Some of them are also associated with infants (ibid. 456-457). Sometimes women with complex parures (including amber beads) are found near to the sword-bearers (i.e. Area C2), but they are also attested, though rarely, in Area C. In this area the sword-bearers are absent, however there is a certain frequency of tombs containing decorative nails. Recently, Vanzetti (2010) argues that the community of Olmo di Nogara has an age-based – thus not hierarchical - structure, in which senior male individuals maintained a dominant role, in part reproduced through the wielding of symbols of martial power and their inclusion in funerary offerings.

However, it is clear that some sword-bearers saw martial action, and are distinguished by cut-marks and healed wounds. However, in 1 case out of 4, the adult male (ca. 40) of the tomb 405 who died from a lethal blow in the head, was not buried with the sword (Canci et alii 2005: 498). This may indicate that warriors are not only those with swords! In other words, the sword does not ‘make’ a warrior but has other symbolic connotations relating to age and authority. In the same way, some other swords belong to individuals who suffered from spondiloarthrosis, whom we might expect to have been excluded from extensive martial action. This evidence may suggest that the sword refers to a wider ideological concept of martiality, strategically regulated by the members of a senior male club.

Turning attention to the Recent and Final Bronze Age, the number of the spearheads in tombs increases by far. In a number of cases, the fact that some of the graves were unearthed during agriculture activity and quarrying (which disturbed the primary context) hampers any detailed discussion of associations within individual graves. Also osteological determinations are not always available, and in some occasions the age at death of the individuals is too generic to allow any consideration about the age of the ‘spear-wielders’. Bearing in mind these problems, I shall now discuss the data available.

The Recent Bronze Age Tomb 110 of Canegrate (Lombardy; Appendix 2: 5), consisted of a simple pit with a circle of pebbles in the centre. It contained fragments of ceramic vessels and a leaf-shaped spearhead blade which laid flat, with the tip towards the north. Parts of the twisted socket were also found together with a fragment of what was interpreted as the “lattice handle of a knife-dagger”, which unfortunately the author did not publish. It may be possible that the latter pieces were lost after the recovery (Rittatore Vonwiller 1956-1957: 24, Tav. XIII). Osteological analysis revealed that the cremated bones belong to an adult male individual aged approximately 25 years old.
The spearhead found in the tomb 292 of the Cà Morta cemetery (131) can be attributed to the advanced phases of the Final Bronze Age. The remains of a male individual were accompanied by a broken and burnt sword, a spearhead, pins and fragments of earrings. The tomb of Cava Molteni (130) was discovered by workers, who found a sort of stone box containing ceramic vessels, 1 spearhead and 3 pins (Magni 1910). Since the objects have different patination, the author suspected that they were deliberately destroyed and damaged prior to deposition and subsequently placed in the grave. The spearhead is attributed to the Final Bronze Age 3 – First Iron Age on typological ground (De Marinis 1970 a: 66). The tomb of Moncucco (165) contained a spearhead which was placed in an urn (De Marinis 1970 b: 88). It can be assigned to an advanced phase of the Final Bronze Age (Ha B1) on typological grounds (Colonna 2006: 173-75; Venturino Gambari 2006 b: 28, Fig. 26-27).

The cemetery of Morano sul Po (168) (Venturino Gambari 2006 a) represents an interesting case. The site is located along the Po river, not far from the point where this river joins with the Dora Baltea. The tombs with complex grave-goods are few and they do not occupy a special position within the cemetery, thus they may not simply represent the graves of dominant members of the community (Venturino Gambari 2006 b: 31). Two spearheads were deposited in two different tombs (t. 22 and t. 51). The probable tumulus grave 51 consisted of an urn placed in a pit. The grave-goods, which show evidence of exposure to fire, include: fragments of pins, a fragment of a small ring, spearhead, sword and pieces of other deformed objects. The cremated bones belong to an adult individual whose sex is undeterminable. The grave has been assigned to the beginning of the ninth century BC (Giarretti and Rubat Borel 2006: 168). A different situation is shown by the tomb 22 (Fig. 5.6.1-2). Two individuals (an adult male and a probable adult female) were deposited in the tumulus grave. The objects within the urn include: 2 pins, 1 fragment of fibula and 1 small studs. The spear was pierced into the ground before the pit was filled up (Venturino Gambari 1999: 39). The grave can be assigned to the second half of the tenth century BC (Giarretti and Rubat Borel 2006: 127).
Unfortunately, information for other specimens found in cemeteries in north-west Italy is sadly lacking (e.g. the tomb of Cava Manzoni: 132; Luino: 156; Tintoria Comense: 186; Bissone Pavese: 127; tomb of Via Gorio: 190 - Archaeological Museum “Paolo Giovio” at Como).

Turning attention to north-east Italy, I will now discuss the evidence of spearheads in funerary contexts. The Final Bronze Age-First Iron Age cemetery of Ponte Nuovo (181) is located on a natural mound on the right bank of the ancient river Tione (Salzani 2005 b). Three different nuclei were identified during systematic archaeological campaigns (ibid. 7) and they are located at approximately one kilometre from the settlement of Coazze (according to surface finds collected during surveys the site can be attributed to the end of the Final Bronze Age). At the east of the same site there is the Iron Age cemetery of Colombara (ibid. 76). There are no substantial distinctions amongst the composition of the grave-goods in terms of the number of the objects juxtaposed in the grave. Nevertheless, in at least the 3 cases of burials with weapons, the evidence has been used to infer the eminent role of some members of the community (ibid. 80). Apart from the Iron Age tomb A with a “Tarquinia” type antemna sword, only 2 cremation graves contain spearheads (Appendix 2: 33/1-2).
The urn of tomb 5 contained the cremated bones of an adult male individual. It may be worth noting that adulthood is considered to begin from ca. 20 years old onwards (Onisto and Marsotti 2005: 118-119). Accordingly both individuals of about 25 years old and those around 50-60 years old are equally considered adults (ibid. 115: Fig. 1). In the case of this published criteria, because the length of time of the adulthood is so wide, it is impossible to ascertain whether an individual generically attributed to adulthood is in his/her advanced years or not. The urn was placed in a pit above a thin layer of soil derived from the funeral pyre. Burnt fragments of a spearhead and a knife of “Vadena”, var. A type and an unburnt butt of a spearhead were placed around the urn (Fig. 5.7), while a razor of “Fontanella” type, a pin of a serpentine fibula and a small bowl were found beneath the urn. In addition, the socket of this spearhead, fragments of a broken pin of “Fontanella” type, and some other small bronze pieces deformed by fire were placed inside the urn, mixed with the cremated bones of an adult male. A second small bowl was placed at the bottom of the urn. The grave can be attributed to the Final Bronze Age, phase 3 on typological ground (Salzani 2005 b: 15). The tomb 61 belongs to a youth/adult male and it can be attributed to the early Iron Age (Este I) on typological grounds (ibid. 48). A serpentine fibula, a razor of “Vetulonia” type and a ring were placed inside the urn. A
burnt and broken flint blade was found mixed with the cremated bones. Here, 3 fragments of a spearhead were found outside the urn.

The cemetery of Desmontà is located at approximately 600 m east of the settlement of Sabbionara (Salzani 1993: 26) (138). The fact that in each nucleus were buried both female and male individuals, may suggest a distinction that relies upon kinship ties. Tomb 56 contains the cremated bones of an individual which were deposited in a simple pit. The grave goods consisted of a fragment of serpentine fibula and a decorated spearhead which was burnt and broken into different pieces. Ostological analysis is not available.

In southern Italy I have recorded only 2 Final Bronze inhumation graves with spearheads and both of them come from the cemetery of Oppido Mamertina (172) (Pacciarelli 2001). The graves were unearthed by the owner of the land without scientific method or systematic recording. However, the author attempted a reconstruction of the composition of the objects deposited within the tombs on the basis of both archive research and the information given to him by the members of the Soprintendenza. Accordingly, the tomb discovered in 1927 included: a “Fontanella Mantovana” type knife, a spearhead, a “Castellace” type short sword and a cylindrical sharpener of schist rock (ibid. 191). The tomb 2 (1929) contained a “Pazhok” type spearhead, one greave and fragments of bronze rings (ibid. 193). In addition one more “Pazhok” type spearhead was consigned to the Soprintendenza in 1936. The author suggested that the individuals buried with “Pazhok” spears were members of warrior elites (ibid. 200; see chapter 4.5).
5.4. PATTERNS OF ASSOCIATION AND ROCK ART

Rock art is a further context of “recovery” where spearheads are usually found either in association with other metalwork types or as single weapon. The sequence of the rock art in Valcamonica has been divided in different periods, but I will only discuss those ones concerning the Bronze Age: Camunian periods III B-C-D (2500 – 1200 BC) and IV A-B (1200-800) (Anati 1980).

During period III, human figures are very rare. On the one hand, according to Anati (1980: 123-124), they mainly represent anthropomorphic figures, participating in hunting or dancing scenes, and more generally in ritual scenes concerning rites of passage and mortuary cults. These depictions seem to represent ‘prototypic’ actions rather than real events (Anati 1980: 124).

In contrast, the amount of human figures increase during period III D (1400-1200 BC) and by period IV (the end of the Bronze Age – beginning Iron Age) it becomes dominant in prehistoric rock art. Weapons and tool are no longer represented as isolated images but are now wielded by the anthropomorphic figures (ibid. 124). As a matter of fact, De Marinis (1992: 172-173) argued that the shift from a schematic and symbolic to a descriptive art must be posited at the beginning of the Iron Age on the basis of two principal factors: the anthropocentrism (a phenomenon influenced by the process of urbanism and the relative socio-economic changes, which characterize the Villanovian proto-Etruscan period) and figures of horsemen (equine were not relevant in warfare before the 12th-11th century BC). Therefore, according to De Marinis, the appearance of the complex production of anthropomorphic figures bearing weapons is to be assigned to the beginning of the Iron Age (see also Sansoni and Gavaldo 1995: 118-119 for a different view). There are many ways to interpret these armed figures: ancestors, heroes, deities, war leaders or young individuals entering their warrior status; all of these suggestions may be feasible (Marretta 2003: 186).

During the course of the Bronze Age then, we may be seeing a shift from the making of real offerings, dedicated to supernatural entities, substituted by the incision of single weapons on rocks (De Marinis, Fossati 2004: 358). Single weapons are incised on the rock one above the other, creating a sort of symbolic multi-depositional zone, where special objects are offered to supernatural entities in particular places over time (Fig. 5.8). The representation of single weapons is conceptually tied to the practice of votive deposition in water. This practice is likely to stand for a collective continuity of acts that seems to
strengthen the relationship between people and supernatural entities (see also 1.7). In addition, weapons appear to be symbols in their own right: powerful tools which embody supernatural forces (Anati 1975: 86). Some authors (De Marinis and Fossati 2004: 358) have suggested these images are associated with rites of passage of young males into adulthood. Apart from the engraved spearheads shown in Fig. 5.8, another interesting example is represented by the figures at Berzo Demo (Lombardy), which can be attributed to the half of the 1st millennium (Priuli 1991: 977).

![FIG. 5.8. 1-2. Dos de Costa Peta (Paspardo-Lombardy): series of spearheads engraved on the rock (adapted from Priuli 1991: Fig. 14, 19).](image)

In this case, the author stressed the sacral role played by the area where the spearheads have been incised on the rock. Accordingly, the elements connected with the cult are (in his view) figures of cultic places and the motifs of feet connected with the protection of the rock from being trampled. However, spearheads may be also associated with other classes of objects such as axes and daggers in various scenes (i.e. rock 34, Luine, periods III B-C: Anati 1975: 90, fig. 76-78). Groups of engravings representing Bronze Age swords are also found in isolation (Griselle – Veneto), or superimposed upon Middle
Bronze Age axes (Roccia di Castelletto – Brenzone – Veneto) (ibid. 909; De Marinis and Fossati 2004:355-356). The latter evidence may suggest that generations after generations frequented the same places, adding new engravings and modifying the old ones (Anati 1975: 83) as aspects of weapons technology, martial ideology and symbolism were transformed and re-negotiated.

What appears interesting is the fact that these groups of different weapon types are not often associated with one another. This may suggest that there may have been a clear intention behind the individual selection of the objects to be engraved, and that rather than representing a co-ordinated or planned panel of motifs, these were more individualised carvings. In the case of spearheads, it is evident that in some instances the real object seems to have been used to trace its profile on the rock, suggesting the bringing of individual weapons to the rock, and their inscription by individual hands. In other cases, compositions of contrasting forms are used to make anthropomorphic or idoliform (object based) images (Fig. 5.9).

![Fig. 5.9. 1. Rock 32, Luine (adapted from Zavaroni : 2008: 36, fig. 7.1); 2. Rock 48-A, Luine, periods III B-C (adapted from Anati 1975: 86, fig. 72).](image)

The earlier engravings of warriors appear towards the end of the Final Bronze Age (12th-9th century BC) and they become very popular at the beginning of the Iron Age (period IV). Although the representation of warrior figures seem to be a dominant theme,
scenes of real combat are very rare. They refer to warriors with raised weapons or to sport competitions, in which the opponents wielding sticks seem to be young individuals supervised by instructors/arbiters (perhaps alluding to symbolic displays of strength and prestige, training events or rites of passage). Motifs of small lace-up sandals seem to also refer to young individuals, suggesting the representation of a key age-set (De Marinis, Fossati 2004: 359). In this period, complex scenes of anthropomorphs wielding spears refer either to warriors and martial ideology (duels, military parades, horsemen wearing crested helmets) or to hunting scenes in which spears are ready to be hurled or are already impaled in the animals’ body.

In conclusion it may be worth noting that, although the engravings of weapons may be linked to a wider ideology of war (i.e. acquiring the warrior status, basic physical skills to be used in combat and a set of male characteristics, in order to fulfil the social roles which groups or the whole community shared), the Bronze and Iron Age rock art only rarely represent real combat or warfare (ibid.: 360). This helps build a broader understanding of the symbolic importance of weaponry and its use in a whole range of events, not just interpersonal violence.
5.5. DISCUSSION: OBJECTS, PERFORMANCE AND MEANING

5.5.1. SETTLEMENTS

I have argued above that the abundance of metalwork from settlements (mainly lake-villages but also terramare sites) raises severe doubts about the traditional model of ‘casual loss’ of weaponry (see also Pearce 2007: 100; Carancini 2004: 289). The lake-village of Viverone (50) may be a good case in point. The presence of spearheads at boundaries and entrances may be linked to the practice of propitiatory rites, geared to the protection of the community and the household. As already discussed (Chapter 2.6), this evidence may indicate that some objects become meaningful through performance (Gosden and Marshall 1999). Artefact and people converge together in forging a temporally specific identity, which is constructed in relation to others (Brück 2006 a: 310).

There is now growing debate about the possibility of linking settlement evidence to ritual behaviour. The terramara of Santa Rosa di Poviglio (45) revealed that almost complete carinated cups were carefully deposited inside a number of wells at the margin of the moat. These vessels, attributed to a phase that precedes the abandonment and the sealing of the wells, were interpreted in terms of offerings as part of a water cult within the domestic space (Cremaschi and Pizzi 2011). Another interesting case is that of the settlement of Roca (Apulia), published recently by Magiulli (2006: 125-131). Inside the site and parallel to the fence, the archaeologists found a soil platform. The structure was destroyed by a violent fire toward the end of the Final Bronze Age (FBA 2-3). A pit, very similar to a posthole, was filled up with different types of objects: ornaments, weapons and tools, ivory, and fragments of a golden solar disc. The deposit was interpreted as a hoard. Outside the pit and above it there were other folded fragments of another disc. The whole structure has been interpreted as an area designated to ritual practices; the remains of the skeletons of pigs and other animal bones associated with a small knife (perhaps suggesting deliberate sacrifice?) as well as the golden discs and spearheads which had been pierced into the ground, may support this idea.

The author (ibid. 131) proposed that an unexpected fire forced the people who were carrying out rituals inside the structure to abandon it rapidly. Accordingly, all the objects necessary for the performance were left on the floor. Although this is possible, the recent work of Nowakowski (2001) on domestic space must be not overlooked. The author identified a series of practices, such as the backfilling of postholes, use of fire and spearheads piecing the earthen floor of structures, which may in some cases refer to the
planned abandonment of a site. On the basis of the data published in the article, it seems that the method of disposal of the objects found in the structure of Roca was more careful and structured, than casual and accidental: the folded disc placed above the supposed hoard; objects deposited within a pit; the spear pierced into the floor. Interestingly, following Nowakowski’s interpretation, it may be worth noting how objects can be charged with different meanings - beyond their practical functions - according to the practices they are involved to. In this perspective, the spearhead becomes the instrument to “kill the house” (ibid. 145) in a manner not dissimilar from evidence in contemporary cemeteries (see below). The provisional nature of the publication of the site precludes further analysis, and so this speculation of ritual practice within the settlement remains tentative. However, in some instances, edge-wear analysis can help develop such interpretations (see 7.8).

5.5.2. HOARDS AND MULTIPLE DEPOSITIONS

Turning attention now to hoards, I have demonstrated (Table 5.1) that during the earlier phases of the Bronze Age, hoard composition relied upon few classes of objects. Considering those which include spearheads, the recurrence of weapon hoards is attested in only one case in the course of the Middle Bronze Age (the Cascina Ranza hoard: 9). Another example is provided in the later period (the Pila del Brancòn hoard: 92) but there was a significant change in the final Bronze Age, resulting in an increase in classes of objects included in hoards.

Domanico (2002) has recently proposed a relationship between the strategic position of some of these hoards and smiths’ activities. Interestingly, the impression of spikelets (Poaceae or Gramineae) at the bottom of an ingot in the Soncino hoard (110) (Castelfranco 1892: 108) may give important insights into the metal working: this plant is widespread in the Po valley and it grows at the end of May. Leaving aside complex discussion about the role of the smith within the community, the evidence may indicate that the metal working was carried out at certain periods during the year (in this case, coinciding with a lull in the agricultural cycle). The fact that objects related to the metallurgical activity are also found in the Middle-Recent Bronze Age terramare sites (Giardino 2005), does not exclude the possibility of metal working outside of such settlements. In this perspective, it may be important to note the constant recurrence of axes, sickles, ingots and spearheads in what could be classified as “wild” locations (sensu Helms 1998). Contrarily, swords are almost always excluded from these assemblages. It
may imply that these deposits have ideological as well as socio-economic significance, and were used to help reproduce and reinforce certain worldviews. It seems that all the objects essential for self-substance and reproduction were ultimately given-up in particular places (see also Fontijn 2008 for parallels). What at first glance seems a contrast between objects with a culturally-conceived form and the “outside”, may not be the case. Axes and sickles are intimately related to fertility and reproduction as metallurgy is metaphorically linked to transformation/rebirth (Turner 1998; Brück, J. 2006a). In this perspective, giving up such objects associated with reproduction (both agricultural and craft related) in the main loci associated with the acquisition of raw material, symbolically closes the circle from which the entire reproductive cycle began.

Nevertheless, the constant inclusion of spearheads in these deposits is as ambiguous as the role they may have had amongst past societies: they are mainly objects used in combat and in hunting game, as well as being the primary weapon wielded by young individuals in the stages which precede adulthood (i.e. Martinelli 2004). We might posit here an additional symbolic layer of meaning, in which the duality of spears was especially significant, associated with both fertility and destruction. Reinforcing this idea, the idoliform figure engraved in the rock 32 at Luine (Fig.5.9. 1.) seems to represent an “ambivalent god presiding over death and life” (Zavaroni : 2008: 36). The author interpreted the curved line on the wooden shaft of the spear as a downward penis or a pregnant goddess Earth; in both the cases they would allude to fertility and procreative power. In opposition to this, the metal head of the spear would allude to its destructive and lethal side. The constant contrast in these hoards between rebirth and destruction may be also read in terms of giving back these objects to the natural places from where they come from (Fontijn 2008:103). As a matter of speculation, I would argue that the inclusion of weapons – and amongst them mainly spears – may represent in some cases the symbolic “killing” of the objects – their ultimate abandonment - in order to allow regeneration, according to the cyclical process of destruction and creation.

The inclusion of a few still usable spearheads in some of these tool-dominant hoards (see below chapter 7.7-9) may have had different connotations. Interestingly, in his commentaries on the works of Virgil, Maurus Servius Honoratus (a fourth century A.D. author) provides a description of a particular rite carried out by the Romans to wage war (Ad Aeneid, Librum IX, 52) in which the chief of the fetiales (a specialised priestly class charged with the rituals of the commencement or closure of warfare) hurled a spear into the enemy’s territory, which represented the emblem of the commencement of hostilities (emittere hasta). An analogous ethnographic example is cited by Thomson, where the
declaration of war amongst Fijians took place by sending a spear - and more recently a club - with the threatening message that a combat would have followed thereafter (1908: 89). In line with those examples, the presence of spearheads in non-weapons hoards carried with it an overt martial message: perhaps providing symbolic protection to the hoard, or representing a warning to those who may have disturbed its sanctity, alluding to the potential for reprisal by its armed depositors. As with other metals, the spearhead was a powerful implement which may well have been perceived to be charged with magical properties, as well as redolent with human associations (Giles 2007).

It is evident from the data shown in Table 5.1 that there is a recurrent exclusion of ornaments from hoards which contained two to four classes of objects, with a few exceptions (Monte Primo: 167; Gradisca sul Cosa: 74): indeed, weapon and tool/ingot dominated hoards only rarely contain ornaments throughout the Bronze Age. The majority of the tool/ingot dominant hoards are located in north-east Italy. In contrast, Final Bronze Age hoards made up by mixed assemblages including ornaments are mainly located in central Italy. In this period, the amount of objects included in those hoards is quantitatively larger. The inclusion of significant amount of ornaments may suggest the participation of a wider section of society in depositional practices, at this time: not least, perhaps, the inclusion of objects associated with the transformation and decoration of women’s bodies (cf. Treherne 1995). For example, apart from simple arc fibulae (generally identified as female ornaments) other different types of fibulae as well as armrings are often found in these hoards: the helicoidal fibula contained in the hoard of Contigliano/Piediluco II (136) is also found in the cemetery of Ponte Nuovo (181) in a female grave (Tomb 57b: Salzani 2005b: 43-44). Armrings from these hoards have counterparts in some specimens found in female graves (Morano sul Po: i.e. Tomb 4: Giarretti and Rubat Borel 2006: 91-92).

Some authors have attempted a geographical distinction of distinct modes of warfare based on types of weapons found in different archaeological contexts: if in the north-east Italy the sword was the weapon par excellence, in north-west Italy it might suggest that the axe played a key role in combat, at least according to the metalwork recovered from the pile-dwelling of Viverone (50) (Rubat Borel 2010). Nevertheless, if we look at the composition of weapon hoards, which are traditionally linked to warrior identity, this distinction appears somewhat opaque. Most of these assemblages (both weapons and non-weapons hoards, even where they contain spearheads) are constantly distinguished by the presence of axes. This particular link remains throughout the Bronze Age and it does not seem to correspond to particular geographical boundaries. The rarity of swords in hoards,
compared to spears, is also curious, and could be used to suggest they did not have the central martial role with which they are traditionally charged. However, I do not want to downplay their importance in Bronze Age communities; rather their symbolic value may have primarily drawn upon in other contexts (see below 5.3).

Turning attention to multiple depositions, apart from the fact that they are deposited over an extended length of time, the composition of the deposit is not very different from that of the standard weapons hoard. During the Middle Bronze Age the only deposition in a rock fissure (Oggiono-Ello: 32), may be informative about the employment of spearheads in such practices: Frontini has suggested that such a deposition seems to have a close link with the cult of the ancestors, and perhaps with the afterlife, during rites of passage (Frontini 2001). The presence of fragments of human bones in this deposit seems to strengthen this hypothesis.

Between the Recent and Final Bronze Age, there is increased evidence that depositional locales focused on wet places, which were visited over time (e.g. Corte Lazise: 78). Interestingly, the difference in the composition of the assemblages between the Recent and the Final Bronze Age may allude to a changes in the notion of being a warrior, identified not only by weapons, but other kinds of bodily treatment and paraphernalia (see chapter 2.9). In contrast to riverine deposits, the presence of spearheads in caves characterized by underground water, may (like the rock crevice) be linked to a cult of the ancestors, whereas hilltop locales might be more related to the worship of solar deities or celestial entities. During the Final Bronze Age this evidence may represent a contrast between a lower sphere concerned with the afterlife and a sphere that transferred the emphasis to the sky and its associated deities.

5.5.3. GRAVES

The association of spearheads with other objects in funerary contexts varies according to time and space, so that it is not possible to identify standard patterns. Interestingly, the association spearhead-sword is very rare in tombs, being attested in only 4 cases out of 23: 1 in the Middle Bronze Age in north-west Italy and 3 in the Final Bronze Age (two in north-west and one in southern Italy). Nevertheless, swords occurred in association with spearheads more often than other weapons (such as daggers and knives) or tools (e.g. razor). In the Middle Bronze Age spearheads mainly occurred as the sole grave-good. In contrast, Final Bronze Age assemblages deposited in graves are more complex compared with the previous period: spearheads associated with ornaments such as pins are generally
well attested in tombs in north Italy, while those with serpentine fibulae appear to be dominant in north-eastern Italy. Spearheads associated with daggers and knives do not represent a typical pattern, but rather an exception, as is the occurrence of spear and razor in the tomb 61 at Ponte Nuovo (181), which belonged to a young individual. Corollary objects can include: earrings, rings, spearhead butts, greaves and whetstones (sharpeners?).

Although difficult to ascertain, it seems possible that, besides the general rarity of spearheads in graves, there was also a reluctance to associate them with swords in these contexts: a pattern reaffirmed by hoard composition as well as rock art motifs. The example of Olmo di Nogara is an interesting case, although it may represent an exception rather than the rule in the Middle Bronze Age of north Italy. The analysis of the cemetery has shown that certain horizontal differentiations, dependent upon age and gender, were significant, although clusters of sword-bearers may allude to an emerging organization or affiliation between different units along more pyramidal lines. The fact that the community of Olmo di Nogara might have had an age-based structure (Vanzetti 2010), may suggest (with reservations) that the introduction of swords in tombs had a symbolic and ideological dimension. I believe that it may express a concept of martiality that went beyond the physical ability of individual to fight, but was rather a symbolic tool through which senior male individuals maintained their dominant role within the society. Accordingly the exclusion of spearheads from tombs may not have been only read in terms of a “ritual taboo”: rather the spear may have had a key relationship with a youthful age-set, and was closely identified with their rites of passage (see above 5.4). As such they may have been deliberately excluded from most funerary practices, in which grave goods were used both to refer to and reproduce, categories of seniority or authority. Unfortunately the number of positive osteological identifications is too small to confirm this through mortuary practice, a key ideological bond between the spear and a youthful age-set should not be dismissed (see chapter 2.6: i.e. Tabulae Iguvinae).

From this perspective, the evidence highlighted by Pacciarelli (1999) in the cemetery of Torre Galli in southern Italy provides an illuminating example. Whilst Iron Age in date, this cemetery in southern Italy provides evidence of a distinction dependent on age, reproduced through the association of different kinds of weapons with different age grades: javelins are predominantly associated with infants and young individuals (when they would begin their warrior career, receiving a basic weapon) whereas the lone spear or the association of spear-javelin is mainly attested in tombs belonging to youthful/adult individuals. Contrasts between warriors with a spear and knife, and those with a spear and a short sword may instead relate to distinctions in the social role of the individuals (ibid.}

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94-95). It could be suggested then, that the exclusion of spearheads from graves indicates a society which emphasised seniority, rather than a society organised along fully hierarchical lines. Even in the more structured society of the Iron Age, the deposition of spears with youthful members of the group would not have posed a threat to members of established warrior elites, for whom the sword was the key martial object of authority and power.

To sum up, the evidence suggests that ideological or symbolic dimensions underpinned the deposition of spearheads, pertaining to aspects of gender, age and status. The contrasting composition of deposits may help us detect the involvement of different participants in certain practices, for example, between the diverse assemblages of tool/ingot/axe hoards, compared with weapon hoards, contrasted with the single deposition of spearheads. Whereas the former mixed hoard may represent collective identities and multiple participants, the strong martial connotation of other hoards (Cascina Ranza: 9; Pila del Brancòn: 92, but also Oggiono-Ello; “South Italy”: 121, Sassello: 103 and Malpensa hoard: 158) may represent a majority of male participants. The exclusion of spears and axes from graves, in favour of the sword meanwhile, may have been used to emphasise seniority in the context of the departure of a respected elder. Accordingly, the shift from Recent Bronze Age assemblages mainly dominated by weapons, to the inclusion in the Final Bronze Age of different metalwork types in multiple depositions (see Corte Lazise:78) may allude to a change in the concept of warrior identity referred to above. Whilst the weapons continued to emphasise the potential for violence, other objects (razors, personal ornaments) spoke of equally important aspects of martial appearance or performance, such as specific corporeal regimes of care (see also Chapter 2.9). In the same way, by the Final Bronze Age, the inclusion of ornaments in hoards may indicate the participation of a wider section of the society and a more equal representation of genders during such proceedings.

Returning to the rationale behind either the presence of spearheads in tool/ingot and ornament dominant hoards, or at the boundaries of settlements, the spear may not be so much a symbol of the male domain and warrior identity, but may relate to a more generic concept of martiality, linked to the twin capabilities of this weapon to both destroy or defend. The spear may thus have been capable of bearing a broader symbolic identity relating to the community as a whole, in contrast to the more narrow connotations of the sword. If valid, this would downplay the male or martial connotations often imposed upon these objects.
In this chapter I have observed from my analysis that there are recurrent association between spears and other metalwork types. The examples analysed here suggest that objects had a key role in the negotiation and reproduction of societal meanings: whilst the spear may be closely linked with either individual biographies of youthful individuals or more collective senses of identity (and were therefore used in a variety of hoards, multiple depositions, settlements or even depictions in rock art), swords appear to be the appropriate weapon for the representation of someone’s seniority or status, identified at the moment of death, in front of the community. Having explored the possibility of deliberate associations between objects in different contexts of deposition, the next chapter will explore whether there are patterns in the deposition of spearheads in particular locales within the landscape.
This chapter will investigate the recurrence of Italian spearheads in different depositional contexts. The analysis will follow a chronological sequence, according to the three main phases of the Bronze Age: Middle Bronze Age (6.1), Recent Bronze Age and its overlap with the subsequent period of the Final Bronze Age, phase 1 (6.2) and Final Bronze Age its overlap with the subsequent period of the early Iron Age, phase 1 (6.3). Patterns of deposition of spearheads in other regions outside Italy, as well as a final discussion will be presented in section 6.4-5. The following section (6.6) will explore possible evidence of a “structured landscape” (Fontijn 2002), based upon observations of favoured deposition of spearheads and swords in rivers, and more generally, in places visited over extended periods of time (6.7-8). The next section will deal with different spearheads types in order to investigate the extent to which they can inform us about structured landscapes and depositional practice (6.9). Meanwhile, the third section will approach edge wear observations in order to evaluate to what extent this methodology is informative about the role of spearheads among past societies (Chapter 7).

The analysis will follow two main lines of enquiry: (1) the total number of spearheads in each context have been analysed against their recurrence in dry and wet environments; (2) a second graph only considers the number of the contexts and their recurrence in dry and wet lands, regardless of the number of spearheads found within them. The aim is to evaluate (beyond the number of objects and their selection in relation to other artefact types – see chapter 5) whether there is a relationship between the type of context in which spearheads have been recovered, and specific kinds of locale in the landscape.
6.1. MIDDLE BRONZE AGE (1650-1350 BC) (Fig. 6.1-2)

TOMBS: it emerges clearly from the graphs that spearheads are rarely included as grave goods toward the end of the Middle Bronze Age (Fig. 6.1). Those that do exist are all located in northern Italy. A tomb from the cemetery of Montata (28) is included in these figures, although the identification of a small fragment of a spearhead (Cardarelli, Tirabassi 1997: 680) is debated (Cardarelli personal communication).

SETTLEMENTS: a conspicuous number of spearheads are recovered from settlements either in dry (mainly terramare sites of the central Po plain) or wet lands (lake villages). The number of spearheads in each settlement is generally small; the commonest number of spearheads in Middle Bronze Age terramare sites is between one and two, while the maximum in wetland sites is between three/four (Peschiera – Bacino Marina: 38) and uniquely, eight (Viverone: 50). All the settlements are situated in northern Italy, mainly in the Po Plain and alongside the shores of morenic lakes at the foot of the Alps. Unfortunately, in the majority of the cases the circumstances and the quality of the recovery hamper any further details about their stratigraphic position within the settlement (see Chapter 3).

HOARDS: strong evidence for spearheads comes from the hoards. In the early phases of the Middle Bronze Age, hoards occur almost exclusively in wet lands, namely rivers and bogs, with virtually no spearheads in dry places. Apart from the 31 out of 32 spearheads from the extraordinary hoard found in the paleo-channel of the river Olona (Cascina Ranza: 9), I have included the context of Avigliana (1) among the bog finds. Peroni (1996: 136) considered the assemblage found in 1915 in the bog of Avigliana as a hoard or perhaps a votive deposition. However, De Marinis, reflecting on geological considerations (Sacco 1885 cited in De Marinis 1998 b: 168), argued that most of the artefacts unearthed at Avigliana were lost, as the peaty bog was heavily exploited in the course of the nineteenth century.

The author considered two different options for the presence of this material: either the objects were included in a hoard, as Peroni argued, or they might have belonged to a pile-dwelling site. De Marinis sides with the hoard interpretation, as there is no evidence of potential villages on the shores of the two small lakes of Avigliana. The idea of a hoard seems to be strengthened by the fact that the objects do not show a
water patination, thus ruling out a direct provenance from a peaty or underwater deposit (‘...La prima ipotesi [quella del ripostiglio] sembra essere preferibile, anche perché la patina rende improbabile una provenienza da un deposito torboso o subacqueo (De Marinis 1998 b: 168). In other words, De Marinis seems to exclude the idea that the artefacts were deposited in the bog for votive reasons, supporting instead the notion they were protected by some form of organic container (now decayed), as part of a hoard placed in a humid but not waterlogged environment.

SINGLE/MULTIPLE DEPOSITIONS: the giving up of objects in rivers and bogs reflects a common trend in Europe. The data available shows that the rivers are the main loci of deposition: for example, two spearheads came from the river Sile (Treviso) (46) and a finely executed specimen was recovered at the foothill of the Cuneo plateau alongside the Gesso stream (13). In the case of Laas/Lasa (24) the exact provenance of the spearhead is not further specified, despite the generically definition of “Gewässerfunde” (water find) (Di Pillo and Tecchiati 2002: 429). The authors included under the same list a specimen from the Reschensee/Lake Resia (20).

The objects found between Oggiono and Ello (32) were deposited in a rock fissure over an extended length of time (Frontini 2001:117). The position of Ello very close to the river Adda, makes it a focal point within a wider network of transalpine connections (Domanico 2002: 437-438), as the typology of the other artefacts seems to indicate (Chapter 4.5).
FIG. 6.1. Frequency of Middle Bronze Age spearheads in different contexts of find.

FIG. 6.2. Number of the Middle Bronze Age contexts of find in which spearheads were found.
6.2. RECENT BRONZE AGE – RECENT BRONZE AGE 2/FINAL BRONZE AGE 1 (1350-1100 BC) (Fig. 6.3-4)

The figure, compared with that of the Middle Bronze Age, shows an increase: 197 specimens against 106 specimens of the previous period. However, the great majority of the spearheads can be attributed to the Recent Bronze Age.

Interestingly, the frequency of spearheads by phase is more disproportionate when we consider the duration of the periods concerned: the Middle Bronze Age (ca. 300 years) is characterized by a ratio of ca. 2.8 years:1 spearheads, thus virtually a spearhead every ca. three years, while the period considered here is characterised by a ratio of 1.26:1 (ca. 160 spearheads; ca. 250 years; 1350-1100 BC: Cattani 2009: 50); considering the Recent Bronze Age (ca. 160 years; 1350-1150 BC) the ratio is ca. 1.72:1. Thus, it is possible to point out a substantial increase of the number of spearheads, which toward the end of the Recent Bronze Age is over twice as much as that of the Middle Bronze Age, perhaps indicating an improvement of the bronze technology, more geared to exploit the quality of the metal (see Chapter 4.5).

Turning to the relative trends of spearheads in different context categories, it can be observed that:

TOMBS: in this period the frequency of spearheads in graves is trivial, marking, however, a minor variation with the previous period. The figure shown in the chart does not consider those spearheads with uncertain provenance (i.e. Ortucchio, Peroni 1961a: 158) (85). The only effective spearhead deposited with the cremated bones of a male individual of approximately 25 years old is that of the Tomb 110 at Canegrate in north-western Italy (54).

SETTLEMENTS: the spearheads from settlement sites are mainly represented by terramare sites, apart from Coppa Navigata (64-5) and Eppan St. Pauls/Appiano-Gamberoni (67). The imbalance between the spearheads from settlements in dry and those in wet places is more marked than in the Middle Bronze Age, with a consistent bias toward dry lands.

Turning attention to the number of the contexts in which spearheads were recovered (Fig. 6.4) it emerges clearly that the number of settlements suffers a slight drop in the period here considered; indeed the majority of the settlement sites (ca. 80%) belong to the Recent Bronze Age. Consequently, the lowest point seems to be reached between
the end of this period and the beginning of the subsequent phase, when settlements in dry lands reduced drastically, while those in wet contexts cease to be attested in the archaeological record. This is the period (ca. 1200 BC) when the palafitte – terramare system collapsed; the great majority of the terramare were abandoned, while a select few became larger (i.e. Fondo Paviani (142), Castello del Tartaro and Fabbrica dei Soci –Veneto).

HOARDS: the number of spearheads contained in hoards is still dominant and it increases in the course of the Late Bronze Age. In contrast to the previous phase, spearheads are now also contained in hoards in dry lands. By the Recent Bronze Age, there are equal numbers of spearheads from wet and dry contexts (Fig. 6.3), although as a type of site selected for deposition, dry places outnumber wet lands (Fig. 6.4).

Watery places are also documented in this period by two hoards. The hoard of Pila del Brancòn (Appendix 2:30) was found in a peaty layer on the bank of the Tartaro paleo-channel. The bronze artefacts which made up the Castions di Strada hoard B were found in loc. Selve: a swamppy area not far from the fortified hilltop site of the same name, in the province of Udine (59). Another hoard (Castion di Strada A) was found at ca. 450 m from the previous one, while a number of objects, perhaps depositions rather than stray losses, come from the same area. The majority of the objects contained in the two hoards can be attributed to Recent Bronze Age; yet a few bronzes attributed to the Final Bronze Age may indicate that these were curated artefacts, deposited with a few token contemporary objects at the threshold of this period, or else these late additions were added to existing hoard sites (Borgna 2000-2001: 304-305; for a different chronology see Peroni and Carancini 1999: Tav. 29). Interestingly, a discontinuity in the site occupation is documented between Phase 1 (Middle-Recent Bronze Age – 1600-1150 BC) and Phase 2 (end of the Final Bronze Age-early Iron Age – 1000-800 BC), so that the two hoards may ultimately have been buried in a moment of crises in the life of the settlement site (Borgna 2000-2001).

Turning attention to dry locations, at least in some cases, it was possible to identify the hill slope (Pinerolo: 93), the valley bottom (ca. 1200 m asl) (Rhêmes-Saint-Georges: 98) and more in general the area of the hills (Sassello: 103) as the preferred locus of deposition. Pinerolo is connected to the Alpine area through the Chisone and Susa valleys, indicating, therefore, that the earlier east-west axis (see Avigliana hoard) is still active in this period (Domanico 2002: 435). In the same way, Sassello is placed
along the Bormida-Tanaro axis, which represents a natural connection, via river Po, between the Emilia Romagna and the western Alps (ibid. 436-437).

Interestingly, the great majority of spearheads come from two extraordinary hoards: ca. 59 spearheads (mostly fragments) from a settlement site (Lipari – 79) while ca. 51 spearheads in the Pila del Brancòn hoard. Apart from them, the number of spearheads in the hoard assemblages is generally small, with the commonest number being between one and four specimens. All the hoards in dry contexts, apart from Lipari and Gradisca sul Cosa (a fortified hilltop site in the province of Pordenone: 74) seem to avoid areas of settlement.

SINGLE/MULTIPLE DEPOSITIONS: during this period there is more variety in the selection of the natural places for the depositions of spearheads, although the number is still small compared to the frequency of coeval spearheads found in other contexts: mountain passes (Sellajoch/Sella mountain pass: 106; Sprons-Röthelspitze mountain - 2470 m: 112); settlements (Coppa Nevigata: 64); an underground river within the Pertosa cave (Appendix 2: 46). Rivers, swampy lands and lakes can be listed among the wet contexts, although as above, deposition in rivers outnumbers all the others. Spearheads continue to be mainly thrown in rivers in northern Italy (river Sile–Veneto) (108-9), and there are very rare cases further south (river Tiber-Latium) (116). It may be worth noting that all the spearheads found in Trentino-Alto Adige/Südtirol share a similar characteristic: they have been deposited in river valleys, which offer access to important mountain passes (Province of Trento: Campitello di Fassa, Duron stream: 52; Spormaggiore – Maurina, Sporeggio stream: 111; Bozen/Bolzen province: Prad am Stilfserjoch /Passo dello Stelvio, Valnair stream 95). The assemblage found at Lazise di Villabartolomea (78) may be considered a multi-depositional zone. The place selected for the deposition of objects is likely to be a basin of spring water with a very low-speed current that replaced an already extinct paleo-river.
FIG. 6.3. Frequency of Recent and Recent/Final Bronze Age 1 spearheads in different contexts of find.

FIG. 6.4. Number of the Recent and Recent/Final Bronze Age 1 contexts of find in which spearheads were found.
6.3. FINAL BRONZE AGE – EARLY IRON AGE (1150-950 BC) (Fig. 6.5-6)

The Final Bronze Age and its overlap with the subsequent period of the early Iron Age have been considered together, due to the recurrence of mixed hoards, attributed to an extended length of time. The number of the spearheads ascertained for this period is approximately equal to that of the previous period. However, it should be noted that the scarce documentation and the high fragmentation rate of the objects in some hoards may bias the figure, hampering the correct estimate of the ‘minimum number’ of individual Bronze Age spearheads. The two hoards of San Francesco (184) and Manduria I (159), discovered toward the end of the 19th century are two cases in point. At present, only two spearheads contained in these hoards have been included in this research.

TOMBS: what appears immediately clear from the graphs (Fig. 6.5) is a situation that marks a substantial break with the previous phase. By the advanced phase of the Final Bronze Age a significant number of spearheads, ca. eighteen, are recorded in tombs. The great majority of them have been found in cremation cemeteries in northern Italy, while only four inhumations in south Italy contained spearheads (one is a stray find from the area of the cemetery and another one is an iron spearhead) (173-3).

SETTLEMENTS: meanwhile, the number of spearheads from settlement sites suffers a drastic fall, reaching its lowest point in this period.

The settlement of Fondo Paviani (142) is among the few banked and ditched enclosures that shows continuity after the collapse of the terramare system. This period of uncertainty seems to reflect the generalized crisis of the East Mediterranean and the end of the Mycenaean palace society. This new fourteenth-twelfth century polity centred in the Valli Grandi Veronesi and was subsequently replaced by the settlement of Frattesina on the Po delta (Rovigo – Veneto) (Benabò Brea et alii 1997 b). By the early Final Bronze Age, as I have already mentioned, many of the areas in northern Italy occupied before the 12th century BC are now characterized by abandonment (in particular the area south of the river Po). This evidence helps explain the absence of spearheads (as well as other artefact types) from settlement sites, yet this does not imply depopulation since there is other evidence these territories
continued to be densely inhabited (i.e. Casalmoro, Frattesina, Montagnana: De Marinis 1999:527).

In contrast, there is an opposite trend in central and southern Italy. The south of Italy is characterized by more dispersed settlement patterns, while in some areas, the settlement sites tend to be concentrated on promontories (Pacciarelli 1994). In the case of central Italy, by the Final Bronze Age, a process of settlement “concentration” created larger agglomerates, firstly in northern Latium (southern Etruria) and subsequently in southern Tuscany. Accordingly, the smallest sites seem to be replaced by larger ones mainly located on hill tops, bluffs or plateaus, defended by natural morphological features in the landscape (i.e. Di Gennaro 1982, 1989; Di Gennaro and Guidi 2000). The new asset of the settlements enhanced their strategic potential, both in terms of visibility, access (Schiappelli 2008) and possibly, defence.

However, the settlement system in the area of the ancient *Lacus Velinus* (Rieti – Latium and Terni – Umbria) differs from these patterns. In fact, the lake assumed an important role in terms of aggregation for polycentric communities living next to it. Around the end of the Final Bronze Age the area became depopulated owing to climatic changes and fluctuations of the lake level (Carancini et alii 2008, 2009). It is in this moment that the Piediluoco I (179) and perhaps the Contigliano/Piediluoco II hoard (136) were deposited. Apart from climatic factors, the authors (*ibid. 77*) also envisaged socio-economic reasons behind the abandonment of the Lake *Velinus*: among them the “proto-urban process” that took place in the neighbouring area of Terni in the valley of river Nera (Umbria).

**HOARDS:** the frequency of spearheads occurring in hoards is by far the most dominant aspect of this period, constituting ca. 2/3 of the total amount. It may be worth noting that their number increases toward the end of the Bronze Age and the early Iron Age. Interestingly, as I have already mentioned above, some of those hoards in central Italy were permanently buried at the outset of the processes which characterised spatial reorganization of settlements (Pellegrini 1995: 28).

Some hoards show a close link to the ferrous ore deposits in north-western Etruria (Tuscany), while the hoard at the Pigorini Museum (not included in this thesis) seems to have a strong link to the ore deposits of the Tolfa Mountains. This may tell us about the increasing symbolic and technical importance of this new metal, as people grappled with new technological ideas and craft principles. In other instances, it is still the hill slope or the flank of the mountain which forms the preferred *locus* of deposition (Colle
le Banche: 135; Piediluco I/Contigliano-Piediluco II: 136, 179) or a promontory that faces the sea (Santa Marinella: 185). The Poggio Berni hoard (180) is located at the foothill between the Marecchia and the Uso valleys, and the Aprilia Rimessone hoard (124) is located in the Pontine Marshes, which were extensively drained in the thirties. The alluvial plain in the Latium region is at the foot slopes of the Alban crater, which probably played a key symbolic role in the Bronze Age conceptual or mythic landscape. This area was scarcely inhabited in the Final Bronze Age (Alessandri 2009: 559). In this period it is also a discrete evidence of hoards in caves located on the flanks of mountains or hills, below promontories facing the sea or near ore mines: Monte Primo (167), “Southern Italy” (121) and perhaps the groups of metalwork found at Limone (154). The Limone hoard, supposedly surrounded by a circle of pebbles (Cateni 1977: 3-6), was found on the flank of the Mount La Poggia (384 m a.s.l.). The hoard of Monte Primo was found in a cave on the flank of the Mount Primo, on the right side of a deep gorge carved by river Potenza.

The hoards in central and northern Tyrrhenian coast show close links with the Sardinian metallurgy (Lo Schiavo et alii 2009): Goluzzo (149), Limone (154), Elba Isle (140), Campese-Giglio Isle (133) and Santa Marinella (185). Other deposits contain Cypriot and Aegean imports: Piediluco I and Contigliano/Piediluco II (Vagnetti 1974). The only hoard from northern Latium (Tolfa Mountains) is that held by the Museum Pigorini in Rome. In central-eastern and northern Italy I have included San Francesco (184), while closer to the Adriatic coast: Monte Primo, Casalecchio (134) and Poggio Berni (180).

In contrast, the south of Italy provides much less evidence of hoards containing spearheads (121, 122). Equally modest is the evidence in north Italy, especially combined against the number of spearheads during the earlier phases of the Bronze Age (143, 158).

Although these hoards recur in dry lands, there seems to be a close link with- and a particular emphasis on water - sensu lato, at least in some instances. In one occasion, the hoard is in a prominent position overlooking the sea (Santa Marinella: 185). In other instances the selection of small Isles for the deposition of metalwork may assume a high symbolic value (Bradley 2000); yet their role as important places for mineral extraction and metallurgical activities must be not overlooked (Elba Isle: 140; and Campese - Giglio Isle: 133).

The case of the Piediluco I hoard (and perhaps Contigliano/Piediluco II) is the most emblematic. The metal objects were deposited on the low slope of the mountain which
surrounds the homonymous lake. According to a recently published map (Carancini et alii, 2009: 26, fig. 1), the exact spot seems to be located in the northern part of the Lake Piediluco, at a point very close to the Marmora waterfalls and rather far from the area of the settlements (Fig. 6.7). A ceramic container with approximately 400 pounds of metal was unearthed by the workers in a cavity in the calcareous rock. The locale was not a wetland in the traditional sense but the proximity of these dramatic and significant waterfalls suggests it has close parallels to water deposition observed both in northern Italy and in Central Europe. It seems to be indicative of a special fascination with such a place, in which peoples’ sensorial engagement with a dramatic water feature led them to identify it as a place of significant meaning. The character of relations with, and reactions to, such features, are as diverse as the environments which structure these watery encounters (Strang 2005) yet it is clear they played an increasing role in Bronze Age conceptual landscapes.

In all the aforementioned cases, the hoards are located in focal points which avoid the area of settlement. There are two exceptions: San Francesco (184) and Frattesina hoards (143). While the former was deposited under the floor of a hut (more than 14.000 fragments of objects), the latter was found, together with three more hoards, in an area of metallurgical activity within the settlement site (Bellintani 1994; Salzani 2003).

SINGLE/MULTIPLE DEPOSITIONS: the practice to give up bronze objects in wet contexts is still highly attested in the course of Final Bronze Age and it seems to cease at the threshold of the Iron Age. There is a preference towards rivers (Brenta: 129; Bacchiglione: 125; “generically from Padua-Raccolta Bottacin: 147; river Stella: 176; Merlo: 183), whereas the incidence of lakes (Fucino: 145; Mezzano: 160) and peat bogs (Pergine Valsugana: 177) has not greatly changed, compared with previous periods. Caves with underground watercourses (Pertosa Cave: 178) are still documented. As for dry land sites, a small number of spearheads come from hill tops: Mompantero (164) and Ums (188).
FIG. 6.5. Frequency of Final Bronze Age – Final Bronze Age/First Iron Age spearheads in different contexts of find.

FIG. 6.6. Number of the Final Bronze Age – Final Bronze Age/First Iron Age contexts of find in which spearheads were found.
Fig. 6.7. Map showing the location of the prehistoric findspots in the *Lacus Velinus* area (adapted from Carancini et alii 2009: 26).
6.4. THE DEPOSITION OF BRONZE AGE SPEARHEADS IN OTHER EUROPEAN CONTEXTS

The following section will set the Italian evidence in context by examining spearhead deposition in other European regions. Although there are only a few comprehensive studies published so far, three areas have been further investigated. Three graphs have been created (Fig. 6.8-10), plotting the only specimens for which chronological and contextual information were available. For a better understanding, each chronological system has been linked to the transalpine sequence. The chart in figure 6.8 summarises the recurrence of spearheads in different Italian contexts for comparison (see above 6.1-3), showing their fluctuation across adjacent phases of the Bronze Age.

Considering the spearheads outside Italy, Říhovský’s volume of the Prähistorische Bronzefunde (1996) is fundamental for understanding the typo-chronology of the Moravian spearheads and arrowheads. On the one hand, the majority of the spearheads appear to occur predominantly in hoards, with an increasing rate which reaches its peak during the early phase of the Jüngeren Urnenfelderzeit (Ha A1-B1) (Fig. 6.9). In contrast, settlements and tombs yield a modest figure, and where these do occur, according to Harding (2006), Moravian spearheads are deposited with very high status burials. Interestingly, the number of spearheads from “single/unknown” finds is quite high, making any estimate of wet or dryland deposition unreliable (ibid. 510). On the other hand, arrowheads provide us with a different pattern. The great majority of them occur in settlements and burials, while a small amount are included in hoards and caves.

Turning the attention to Swiss spearheads (Tarot 2000) (Fig. 6.10), it emerges clearly that the majority of them occur in Halstatt A2-B1 settlements (Tarot’s Horizon 4-5), which are mostly represented by lake villages, though a few sites on high ground are also attested. There is no evidence of spearheads in tombs. Interestingly, the number of the spearheads contained in hoards across the Bronze Age is trivial, compared with the figures provided for Moravia and Italy. Depositions of spearheads either in wet or dry lands have their peak in Ha A2-B1 (Tarot’s Horizon 4-5) and they outnumber the spearheads in hoards. However, the vast amount of unknown finds (48%) must be not overlooked.

Given that all the areas considered so far seem to show a low rate of spearhead deposition in graves, Greece offers a fascinating, contrastive pattern. The great
The majority of the spearheads classified by Avila (1983) occur in graves during a period stretching from the late Helladic IIIA – to the Late Helladic IIIC1 (advanced phases of the Bz C1- late Br D/Ha A1). Equally remarkable is the presence of Bronze Age spearheads in tumulus graves in Denmark as shown by the series of volumes “Die Funde der älteren Bronzezeit des nordischen Kreises in Dänemark, Schleswig-Holstein und Niedersachsen”. Within Britain however, water deposition is far more readily attested, with the vast amount of Bronze Age spearheads dredged from river Thames interpreted as the result of ritual activity (Ehrenberg 1977; York 2002).

FIG. 6.8. The deposition of spearheads in Bronze Age Italy.
FIG. 6.9. The deposition of spearheads in Bronze Age Moravia.

FIG. 6.10. The deposition of spearheads in Bronze Age Switzerland.
6.5. DISCUSSION: PATTERNS OF SPEARHEAD DEPOSITION DURING THE BRONZE AGE - “STRUCTURED DEPOSITIONS”.

In the previous sections 6.1-4 I have illustrated the fluctuation of spearheads in different context across the Bronze Age. The following discussion explores to what extent this variability may constitute a pattern, and how it relates to the role that objects played within past communities.

I have shown that in the Middle Bronze Age a consistent number of spearheads come predominantly from hoards (ca. 32%) and settlements (ca. 39%). Overall there seem to be a bias toward wet places. Interestingly, the actual number of hoards in this period is trivial given that thirty one out of thirty two spears are contained in one weapon hoard, in wet land (Cascina Ranza: 9) which skews the picture. The only deposition in dry land is that of Oggiono-Ello in a rock fissure (32) (see also chapter 5.2, 5.5.2). Turning attention to wet lands, there is a discrete evidence of spearheads deposited in rivers located in north-eastern Italy, especially in Veneto lowlands and the alpine valleys of the Alto Adige/Südtirol, but also in western Italy, although to a lesser extent (Cuneo: 13). Accordingly, the distribution of single depositions of spearheads in rivers, contrasts with the that of hoards in north-western Italy.

The figure varies considerably in the subsequent phase of the Recent Bronze Age and its overlap with the Final Bronze, phase 1. In this period we see a consistent drop of the number of spearheads from lake-villages to which correspond to an increase of the number of the hoards. For the first time we now have hoards containing spearheads in dry lands. Nevertheless, a certain link between wet places and martial identity is still maintained in this period (Tab. 5.1) as far as hoards (Pila del Brancòn: 92) and multiple depositions (Corte Lazise: 78) are considered. However, this is not a rule and the Castions di Strada hoard (59), which contained spearheads together with everyday tools and ingots, is a good case in point, as well as the weapon hoard of Sassello in dry land (103). The frequent association between spearheads, metalwork (ingots and tools) and more “mundane” agricultural or maintenance activities (sickles) are predominantly documented in dry lands, with hoards mainly located outside the area of the settlement: in the area of the hills and at the bottom valleys (Merlara: 80; Soncino: 110; Pinerolo: 93) (see also Barfield 1994). Only by the Final Bronze Age onward are such hoards also attested within domestic space in continental Italy (Frattesina: 143; San Francesco: 184), while earlier in Sicily (Lipari: 79). Also the number of depositions in
wet places increase by far (not only rivers and lakes but also caves characterized by underground water such as Grotta Pertosa (178) in south Italy), and hill tops began to be frequented for ritual purposes. The presence of spearheads in rivers is still dominant in north-east Italy, although the deposition of spearheads in lakes and rivers are also documented further south in central Italy (145, 160). In this period multi-depositional zones are frequently located in wet lands (78). Interestingly, Corte Lazise is not very far from a number of settlements, which may have focused their ritual activities in that place. These practices may have been related to martial activities such as control and protection of liminal zones or places where rites of passage occurred. The use of the spear to symbolise protection or reinforce thresholds and boundaries may underpin the presence of a spearhead under the wall of a structure at Coppa Nevigata (64). During this period, there appear to be some regional differences in depositional patterns: the Recent Bronze Age in north-western Italy is characterized by the virtual absence of spearhead deposition in wetlands, which seems to be at variance with their frequency in hoards. Equally, the lack of hoards with spearheads in the alpine valleys in Südtirol is contrasted by their frequency as single depositions. Meanwhile, in Veneto lowlands spearheads mainly recur in rivers, while in the Po plain their presence in the terramare sites is still consistent.

A further significant change can be recorded in the following phases of the Final Bronze Age and its overlap with the Early Iron Age. The figure provided by settlement sites with spears is meagre, while that of hoards in dry lands sees an increase. This period is characterized by a sharp rise in the number of mixed hoards with broken objects, while the total number of spearheads remains quite stable, compared with the previous phase. In terms of metal consumption, this situation may indicate that the earlier spearheads were kept in circulation longer, as the macro edge-wear study will suggest (cf. Chapter 7.8). The composition of the hoards is now marked by an increase of the number of different classes of metalwork types included (see also chapter 5.5.2). In contrast to the Recent Bronze Age, tool/ingots hoards are now included within the space of the settlements (see above). Contrarily the flank of the mountains and caves are mainly selected in central Italy for axe and ornament-dominated assemblages (Monte Primo: 167; Limone: 154; Piediluco I: 179; Contigliano Piediluco II?: 136), although in at least one case there seem to be a clear emphasis on martial activity (Southern Italy hoard: 121).
An interesting aspect of this later type of hoard is its chronology. In fact they are confined to the end of the Final Bronze Age and at its overlap with the subsequent period of the Iron Age. It may indicate a sort of “redundancy” of bronze, due to a constellation of changes that heralded the coming of iron a new technology (Needham 2001: 280). Similarly, the amount of bronze deposited in hoards may reflect a period of stress (Burgess and Coombs 1979: v). According to Bradley (1985: 703) it may also have been a way to reassert the identity and boundaries of communities in time of crisis. Other authors (Peroni 1989; 1996; see also Carancini 2004) link these patterns to economic factors, namely balanced dealing for trade purpose. Yet the fact that many objects were kept in use over an extended period of time led Pellegrini (1995) to different conclusions. The author (1995: 28) refuted the concept of “pre-currency” hoards, owing to the fact that the objects contained in them do not seem to match with existing ponderal systems. Carancini (2004), also suggested a hypothesis of ritual fragmentation for the objects contained in mixed hoards in this period. However, there is growing consensus (Carancini et alii 2009; Pellegrini 1995) in linking the hoard phenomenon to wider settlement (and therefore societal) reorganization. Either in the case of the Lacus Velinus or in central Tyrrenic Italy the abandonment of the areas previously inhabited seems to be marked by the final burial of hoards. Interestingly a similar case is attested in a earlier phase in north-eastern Italy (Castions di Strada: 59).

Combining all the data in a theoretically informed manner, it may be worth reflecting on the symbolic role that these hoards may have taken on, at this particular historical moment. Abandonment of significant places, as well as the passage to adulthood, marriages and deaths, represent the end of a previous union that must be broken by rites of separation, in order to allow reintegration in a new status. In this perspective there may be a link between the cases of Piediluco I - Contigliano/Piediluco 2 and the burial of metal objects, symbols of a previous bond (Carancini et alii 2009: 29). Interestingly, the particular treatment of objects in some of these hoards (touched upon below chapter 7.9) may support this consideration further. The fact that fragmented weapons as well as luxury parts of Cypriot imports were included in these two hoards may indicate that the original role of warrior elites was being downplayed in favour of practices which put emphasis on wider collectivities. In light of the evidence of Piediluco I - Contigliano/Piediluco 2, I believe that a revision that links the changes in settlement in northern Latium and southern Tuscany with the concurrent deposition of hoards may be worth further scrutiny. Pellegrini (1995: 27)
has already expressed the possibility of reading these deposits in terms of offerings made at such a time of change or instability.

On the basis of the data available, the frequency of spearheads in wet and dry depositions by phases is affected by a slight drop, compared with that of the previous period. Despite this, spearheads recur predominantly in rivers in north-east Italy, while a conspicuous number of hoards are now attested in central Italy. The main difference with earlier phases of the Bronze Age is the presence of ca. 18 spears from graves: a rite which marks a break with the previous reluctance to deposit this object with the dead. Whether the evidence is related or not it may be worth noting that in the later phase of the Final Bronze Age, their presence in hoards as well as their deposition in other key locales drops. This is the opposite of the Middle Bronze Age when the frequency of spearheads in wet locales (settlements, hoards and single depositions) is at variance with their rare occurrence in tombs. This suggests there was a slow but significant change in the preferred context for spearhead deposition.

The same fluctuation has been also documented in other regions in Europe. This evidence perhaps reflects different modes of using objects, which took on different meanings according to time and space. In the course of the Middle Bronze Age spearheads and swords were both included amongst the metalwork types deposited. Accordingly, it may be the case that they were discarded in a structured way and following strict rules. But, if there was a consistent distinction between spearhead and sword depositions, where were the latter most frequently deposited?
6.6. SPEARHEAD AND SWORD DEPOSITIONS DURING BRONZE AGE ITALY

The analysis conducted so far sheds light on the variability of spearhead depositions, according to different archaeological contexts, particular places in the landscape and different chronological phases. The following section will try to combine the major patterns of spearhead deposition against those of another class of offensive weapons that was created at the beginning of the Middle Bronze Age, namely swords.

Like spearheads, the distribution of swords in Italy is variable. The volume of the Prähistorische Bronzefunde series (Bianco Peroni 1970) is key here, as are recent studies which provide a more comprehensive picture about sword deposition. Key sites include: the Middle-Recent Bronze Age Olmo di Nogara cemetery – Verona – Veneto (Salzani 2005 c); Pila del Brancòn hoard – Verona – Veneto, attributed to the Recent, perhaps Final Bronze Age, phase 1 (Salzani 1994 a, 1998); the Recent Bronze Age cemetery at Casinalbo (Modena - Emilia Romagna) (Cardarelli et alii 2006) and the thorough analyses conducted by Colonna (2006) for the Final Bronze Age cemeteries in northern Italy. The following chart (Fig. 6.11) plots the fluctuation of spearhead and sword depositions in different contexts across three chronological phases, in order to gain insight into similarities and differences in these depositional patterns.

Middle and, to a lesser extent, Recent Bronze Age burials were well provided with swords. It may be worth noting that ca. 50% of the swords which were deposited within graves have been found in the cemetery at Olmo di Nogara (Verona – Veneto; Salzani 2005 c), representing a particularly strong local tradition. All of them but one were associated with inhumations. Another consistent number of swords (ca. twelve) were deposited on the surface of the Recent Bronze Age cremation cemetery of Casinalbo (Modena – Emilia Romagna; Cardarelli et alii 2006), thus not with the individualised, cremated bones of the dead. A certain amount of swords were also deposited with the deceased in southern Italian caves. Their rate of occurrence in tombs sees a substantial drop at the threshold of the Final Bronze Age. In this period their number is approximately equal to that of spearheads, which, in contrast, seem to now reach their peak.

The evidence of Middle-Recent Bronze Age swords from settlement sites (respectively MBA: ca. 10% and RBA: ca. 0,4%) provides a poor figure, compared with that of spearheads from terramare and pile-dwelling sites (respectively MBA: ca. 46%
and RBA: ca. 15%). While the number of spearheads suffers a drastic drop by the advanced phases of the Final Bronze Age, swords are virtually absent from settlement sites in this period. However, despite the absence of actual bronze swords, there are three moulds for swords from a probable settlement at Piverone (Piedmont) (Bianco Peroni 1970: 72, n. 168-170).

Further striking evidence is offered by the hoard pattern. As already mentioned above (chapter 5.2), hoards do not appear well provided with swords during the Bronze Age, compared with spearheads and other metalwork types such as axes and tools. On the other hand, it is interesting to note that their rate increased across the three phases, reaching its peak in the Final Bronze Age, like spearheads.

The rate of swords linked to particular features in the landscape is far higher than that of the spearheads across the three phases of the Bronze Age. It represents the second most favoured context of sword deposition after “Tombs”. Single depositions derive mainly from watercourses (see below).

**FIG. 6.11.** The deposition of swords combined against that of spearheads in different archaeological contexts and across different phases of the Bronze Age Italy. Key: Middle Bronze Age (MBA); Recent-Final Bronze Age, Phase 1 (RBA-FBA1); Final Bronze Age-Early Iron Age, Phase 1 (FBA-EIA).
6.7. SPEARHEADS, SWORDS AND WATERY CONTEXTS

The changes in sword and spearhead deposition patterns mentioned so far can be used to investigate the notion of a conceptually structured landscape of meaning (see above 6.5), in which objects were important mediums of social discourse. The graph (Fig. 6.12) does not consider dry finds, as the few cases documented do not provide a comparable figure. However, it plots the recurrence of (respectively) swords and spearheads in different wet contexts (rivers, lakes, caves and bogs) in order to point out differences and similarities between the two patterns in the course of the Bronze Age.

![WET FINDS: SWORDS VS SPEARS IN THE BRONZE AGE ITALY](image)

**FIG. 6.12.** The deposition of swords combined against that of spearheads in wet lands across different phases of the Bronze Age Italy. Key: Middle Bronze Age (MBA); Recent-Final Bronze Age, Phase 1 (RBA-FBA1); Final Bronze Age-Early Iron Age, Phase 1 (FBA-EIA).

Rivers appear the main loci of sword deposition in the Middle Bronze Age, while their rate suffers a drop from the Recent Bronze Age onwards. Their number is however still high, compared with other wet contexts. Particularly interesting is the Sprockhoff Ia/Treviso flange-hilted sword, dramatically pierced into the bed of the river Stura (Piedmont) (Bianco Peroni 1970: 60, n. 133: Recent Bronze Age. NB. I follow the earlier chronology of De Marinis and Salzani 2005: 404-405, based on recent acquisitions from the cemetery of the Olmo di Nogara) and the pristine Monza type sword found in the river Adda (Cassano d’Adda – Lombardy: Bianco Peroni 1970: 30-31, n. 59). This latter object has a 12.5% tin content, indicating that perhaps...
the object was not primarily functional (Junghans et alii 1974: 312-313, n. 20, 295 cited in Pearce 1998: 63). Spearheads, like swords, were mainly deposited in rivers, but the peak is reached during the Recent Bronze Age. Lakes offer a modest figure, while caves with underground watercourses, and bogs rarely produce finds of swords and spearheads. It may be worth noting that there seems to be a clear distinction not in the places of deposition between spearheads and swords, but rather in their quantity in different wet places. Having identified a preference in the giving up of weapons in watercourses, the following section will try to investigate whether it is possible to make any distinction between rivers, according to their flow rate.

6.8. GIVING UP BRONZES IN RIVERS

The graph in Figure 6.13 has been created in order to identify possible links between differently sized rivers and weapon deposition in the Bronze Age. The rivers have been graded according to their average flow rate, calculated in m³/s.

Middle Bronze Age swords (ca. 50) are consistently given up in category II rivers. Higher flow rate rivers are well provided for, while category III and to a lesser extent, category IV rivers, appear scarcely attested. The Recent and Final Bronze Age is marked by a decrease of sword deposition in watercourses. However, compared with the previous phase there still seems to be a bias toward major watercourses, but category III and IV rivers are also attested, to a lesser extent.

Turning attention to spears (ca. 16), the practice of spearhead deposition in Italian watercourses during the Middle Bronze Age seems to be trivial, compared with that of swords; spearheads are mainly given up in category II and IV rivers. Interestingly in the following period, apart from exceptions in a major river in central Italy (river Tiber: 116) and in category III rivers, there is a consistent number of spearheads which ended up in minor watercourses in the eastern Alps (Duron Sporeggio: 111; Valnair: 95) and medium flow rate rivers (i.e. river Sile: 108-9). The pattern of the Final Bronze Age provides a different figure: there are rare attestations documented in both category I-II rivers (River Brenta and Bacchiglione: 129, 125) and in minor watercourses in the north-eastern sector (Stella: 176; Merlo: 183). Accordingly, it does not seem possible to define a clear pattern of preference for deposition in rivers renowned for their spectacular flow rate or dramatic appearance, since some regions favour minor rivers over major ones: it is the substance of water and its meaning, rather than the exact hydrological character of the river, which is significant.
That of the river Sile (Treviso – Veneto) is the best case in showing how a given place, a stretch of river in this case, become highly structured and traditional. A conspicuous number of swords (ca. 16) has been found in neighbouring locations in the province of Treviso (Veneto) in connection with the river. Turning attention to the types of swords, the majority of them belongs to a period ranging between the Middle and the Recent Bronze Age and they appear to be mainly linked to local productions: among them for example, Saurbrunn type (see the recent interpretation of De Marinis and Salzani 2005: 393-395); Boiu Iia/Castions di Strada – Boiu Iib/Teor types for the Middle Bronze Age; Arco – Montegiorgio – Cetona types for the Recent Bronze Age and Allerona type for the Recent - Final Bronze Age, Phase 1 (Bianco Peroni 1970). It may be worth noting that a considerable number of specimens, which belong to the types of swords mentioned above, occur mainly in wet locations and graves in north-eastern Italy.

The places where swords were found are often very close to one another (i.e Casier, S. Antonino, Cava Ricchetti, Cave Nardellotto, Quinto di Treviso). Yet whilst some locations have been only attested in limited phases of the Bronze Age, others seems to have been in use over an extended period of time, which range between the Middle and the Recent Bronze Age. This may tell us that certain places were meaningful to communities or sections of them, in establishing and maintaining a network of social interactions, within and across boundaries, and those in use for a long time implies a...
continuity of historical memory. They may well mark liminal boundaries in peoples’ sense of identity: distinguishing “us” from “them”, and at the same time, linking local communities with the outer world (Fontijn 2005: 150). I have mentioned the possibility that there may be a link between types of swords in rivers and those found in graves. In the following section I will explore the possibility of a similar connection between spearheads types and contexts of find.

6.9. CONTEXTS OF FINDS AND SPEARHEAD TYPES

In order to highlight the potential connection among spearhead types and contexts of find, I have selected only the types which provide a comparable figure, recording all the information in three tables which follow a chronological sequence (Tab. 6.13).

In the course of the early phase of the Middle Bronze Age (Table 6.1) the presence of similar types of spearheads in terramare sites and lake villages constitutes the main pattern. At the same time the only two cases in which spearheads were found in both hoards and wet lands can be attributed to probable imports (Type L3, L12: Table 2.3, 5.1-2).

<table>
<thead>
<tr>
<th>TOMB</th>
<th>SETTLEMENTS</th>
<th>HOARDS</th>
<th>DEPOSITIONS IN DRY LANDS</th>
<th>DEPOSITIONS IN WET LANDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBA3/RBA</td>
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</tr>
<tr>
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<td></td>
</tr>
<tr>
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</tr>
<tr>
<td>MBA12/FBA?</td>
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<td></td>
</tr>
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<td>TYPE L14 (2)</td>
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<td></td>
<td></td>
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<td>TYPE L15 (3)</td>
<td></td>
<td></td>
<td></td>
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<td>TYPE L16A (2)</td>
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</tr>
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<td></td>
<td>TYPE SLS3 (1)</td>
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</tr>
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<td>TYPE 26/27B (2)</td>
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<td></td>
<td></td>
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<tr>
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<td>TYPE L12 (1)</td>
<td></td>
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<td>TYPE L12 (1)</td>
</tr>
<tr>
<td>MBA3</td>
<td></td>
<td></td>
<td></td>
<td>TYPE SLS 7B (3)</td>
</tr>
</tbody>
</table>

TABLE. 6.1. Schematic organization of the spearhead types according to the context of find: Middle Bronze Age. In bracket the frequency of the archaeological contexts in each type.
In contrast, towards the end of the Middle Bronze Age, spearheads belonging to the same types can be found in either settlements or dry lands. In a period ranging between the end of the Middle Bronze Age and the beginning of the subsequent phase, Type L42 is represented by a spearhead in a urn tomb that has an exact counterpart in a specimen from a chamber tomb in the cemetery of Mitopoli (Greece) (Table 18.3). This evidence is key in terms of both the social implications behind this practice and its rarity (see above Chapter 4.5).

In contrast, by the Recent Bronze Age (Table 6.2) different types of spearheads in settlements appear to share typological similarities with those in hoards. The spearheads contained in the Pila del Brancòn hoard have been divided into six types (Type L17B, L29A-B, L44A, SLS8, SLS 10A, LS1).

<table>
<thead>
<tr>
<th>TOMB</th>
<th>SETTLEMENTS</th>
<th>HOARDS</th>
<th>DEPOSITIONS IN DRY LANDS</th>
<th>DEPOSITIONS IN WET LANDS</th>
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<td></td>
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<td>TYPE L31 (4)</td>
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<td>TYPE L47 (1)</td>
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<td>TYPE L30 (1)</td>
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<td></td>
<td>TYPE L32 (1)</td>
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</tr>
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<td>TYPE SLS10B (1)</td>
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<td>TYPE L17B (1)</td>
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<td></td>
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<tr>
<td>RBA2/FBA1</td>
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<td>TYPE L43 (3)</td>
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<tr>
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<td>TYPE SLS8 (1)</td>
<td>TYPE SLS8 + SLS8 (FBA1-2) (4)</td>
<td>TYPE SLS8 (2)</td>
</tr>
<tr>
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<td>TYPE SLS10A (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RBA2/FBA1</td>
<td>TYPE LS1 (1)</td>
<td>TYPE LS1 (2)</td>
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<tr>
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<td>TYPE L44A-L44B (FBA) (3)</td>
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<tr>
<td>RBA2/FBA1</td>
<td>TYPE L29B (1)</td>
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</tr>
</tbody>
</table>

**TABLE 6.2.** Schematic organization of the spearhead types according to the context of find: Recent and Final Bronze Age, Phase 1. In bracket the frequency of the archaeological contexts in each type.

The majority of the specimens classified in these types predominantly occur in rivers and in other hoards, with a low incidence in settlements and tombs. It may be worth noting that the wet places documented are mainly located in the eastern Po Plain.
(i.e Pila del Brancòn: 92, river Sile 108-9, rivers in the actual province of Padua 86, river Cellina: 62) and at least in one occasion in a major watercourse in central Italy (river Tiber: 116). In contrast, the only specimen buried with the cremated bones of the deceased occurs in western Italy and it can be assigned to the 11th century BC (190). Although contextual information is not available for the specimens from settlement sites, mainly *terramare*, it may be interesting to note that in the two instances considered here, the visual examination of the surface of the spearheads reveals that the piece from Campore di Bargone (Type SLS8; Appendix 2: 15/1) as well as that from San Polo d’Enza (Type LS 1; Appendix 2: 17/1) are unworn and perfectly preserved. A similar pattern is documented by Type L 43, represented by spearheads very similar to those in Pila del Brancòn hoard. Also in this case the deposition in wet places is restricted to Veneto lowlands (Corte Lazise: 78), while funerary contexts are located in western Italy (Canegrate: 54).

<table>
<thead>
<tr>
<th>Tomb</th>
<th>Settlements</th>
<th>Hoards</th>
<th>Deposions in Dry Lands</th>
<th>Deposions in Wet Lands</th>
</tr>
</thead>
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<td>TYPE LS8 (1)</td>
<td>TYPE LS8 (1)</td>
<td>TYPE LS8 (1)</td>
</tr>
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<td>TYPE L4B (1)</td>
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<td>FBA2-3</td>
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<td>TYPE L4B (1)</td>
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<td>FBA2-3</td>
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<td>TYPE L40C (3)</td>
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</table>

TABLE 6.3. Schematic organization of the spearhead types according to the context of find: Final Bronze Age-Early Iron Age. In bracket the frequency of the archaeological contexts in each type.

Depositions in wet lands occur in the case of Type L32, which are identified by spearheads from Castions di Strada B hoard (59), as well as by spearheads found in the
eastern Alpine region: their circumstances of recovery are unknown, although the fact that they appear to be mainly concentrated in the Alpine valleys should not be overlooked. In another occasion, there seems to be a close typological link between a spearhead found under the wall of a bi-cellular structure at Coppa Nevigata (64) and a specimen discarded in the Pertosa Cave (Appendix 2: 46/1) (Type SLS 10 B).

By the Final Bronze Age (Table 6.3), the situation appears greatly changed. The majority of spearheads have been classified in types which mainly recur in hoards in central Italy (i.e. Type L40 A-D). It may be interesting to note that from the advanced phases of this period, this type and its varieties seem to constitute specific styles of production, consisting of large and very large decorated and undecorated specimens, which have only been found in hoards. Similar designs, although not exact counterparts, can be found in Iron Age cemeteries in central Italy (i.e. cemetery of Terni: Müller Karpe 1959, tav. 40/B 3, C 4).

The connection between hoards and depositions in wet contexts is still documented in this phase and in a few cases, typological similarities can be found between specimens from tombs and settlements (Type L21A, L46B, L48A). At least in one case, a particular style of spearhead seems to circulate predominantly in funerary contexts (Type L39A). In the other instances, tombs located in western Italy appear to have strong counterparts in hoards in central Italy, apart from Type LS8. This type includes a specimen from the cemetery of Oppido Mamertina (172) which can be classified among the Pazhok type spearheads (Pacciarelli 2001: 199).
6.10. DISCUSSION: SWORD AND SPEARHEAD DEPOSITIONS - “STRUCTURED DEPOSITION” AND “STRUCTURED LANDSCAPES”.

The evidence discussed in this chapter has led me to suggest the deliberate and strategic placement of objects in different contexts: a “structured” rather than random pattern of metalwork deposition (Chapter 5). This selection of locales was probably dictated by rules and traditions. If we assume that objects are a vital medium of social relations, and as such they take on a role of enchainment within communities as well as between the living and the dead, they become socially and culturally meaningful through these relationships (Chapman 2000: 145). In the same way, places gain biographies through this offering up of known and celebrated artefacts, within particular natural contexts (Bradley 2000): they accrue meanings, memories, even values, within people’s conceptual landscape, such that these places begin to define the premises of certain social actions and relations. The bias toward a particular place of deposition is not only a matter of selection, rather it becomes significant in terms of its “enchainment” within a wider symbolic narrative. The following section will discuss whether the variation in the places selected for weapon depositions may be connected with the idea of “structured landscape” (Fontjin 2002).

Key evidence comes from the giving up of swords and spearheads in watery contexts. Swords, like spearheads, are mainly deposited in rivers in north-east Italy, although there is also a discrete figure in north-western Italy. There seems to be a difference in preference for particular ‘flow rates’ in rivers which is more geographical than chronological. If in Alto-Adige/Südtirol there is an emphasis in minor watercourses, the deposition of swords in Veneto is centred in major rivers. As already mentioned in the cases of graves, settlements and hoards (Chapter 5), it may suggest that whilst (to us at least) swords and spears are linked through their martial symbolism, as allied categories of weapons, for Bronze Age communities they had different associations, referring to diverse symbolic spheres and as such they were kept separate. Thus whilst up to the Recent Bronze Age, swords occur predominantly in tombs (as possessions of, or gifts to the dead) and in deposits in particular places in the landscape, spearheads by way of contrast are mainly attested in settlements and hoards. Also, while major rivers seem to have been preferred for the deposition of swords, there seems to be a bias towards minor watercourses and streams for spears. Toward the end of the Final Bronze Age, tombs and hoards offer a consistent figure for
spearhead depositions, while this period marks the lowest point for swords. What appears quite clear is that the deposition of spearheads and swords seems to be regulated by different behavioural traditions.

The spear may not have been deemed appropriate for mortuary rites, and up to the later phases of the final Bronze Age, they were excluded from the representation of the deceased’s identity in front of their community (see also above chapter 5.5.3). What appears interesting is the recurrent connection of the spear with the wild, and with boundaries (Viverone: 5.5.1), as well as with symbolic meanings redolent with violence and danger (e.g. spears pierced in the ground: see Morano sul Po, T. 22: 5.3; Roca Vecchia: 5.5.1). At the same time, this bellicosity seems to have an opposite side: the protection of either the whole community or sections of society (perhaps households, as in the deposition under the wall of a structure at Coppa Nevigata and Viverone); this evidence put emphasis on collective identity rather than the individual commemorated in a burial.

In contrast to the sword (a weapon designed solely to kill), the spear represented the arenas of both martial activity and hunting: hence, perhaps, its’ special association with the wild. It would have been a more common weapon, with a more collective status: one of the first to be acquired and trained with, early in a warrior’s career. As such it may have represented that stage of transition between stages of novice/warrior or youth/adult. In this perspective it may have been related to a concept of “incompleteness” or “not yet fully mature” identity, and thus it may not have been thought of as an age-appropriate weapon with which to celebrate or commemorate someone’s death, in front of the rest of the community. The spear differed also in its use: it could be hurled and employed at a distance from quarry or enemy, compared with the sword’s use close-up, in hand-to-hand combat. In addition, spear could be used to wage collective attacks, in which the co-operation between warriors was essential and geared to a communal aim: mutual success and survival in a collective, martial event. In this perspective, the deposition of spears at the boundaries or in peripheries of settlement structures may refer to the protection of the settlement, which had to be maintained though collective action. The threatening or intimidating sight of a spear, bristling with the energy that had plunged it into the ground, (see above 5.5.2), might thus have successfully expressed this collective threat. Such interpretations are obviously speculative, but they seek to make sense of evident differences in the treatment and conceptual categorisation of these weapons by Bronze Age people.
An approximately similar pattern of sword deposition emerges from Fontijn’s study of the attitude towards metalwork in Southern Netherlands (2002, 2005, 2008). Considering “warriorhood” as a temporary state in an individual’s life-cycle, which could in turn be “worn or shed” (2005: 152), the author links the deconstruction of warrior identity with the deposition of warrior paraphernalia in selected places. At least in some instances, the deliberate deposition of swords in major watercourses seems to suggest a close relationship between the performers and particular depositional zones, such as rivers, which may have been imbued with “martial” connotations. In an earlier work (2002: 188-191) the author discussed the hypothesis that the reasons behind such practices were primarily religious and not related to elites claiming leadership, although “an element of competition was not wholly absent” (ibid. 189).

In this respect, the example of multiple deposition in wet land at Corte Lazise is a good case in point. Salzani (2006: 33-34) suggested that the flourishing of votive depositions in the Recent Bronze Age should be contextualised against the absence of weapons in graves in north Italy; in the author’s opinion such practices were linked to how status groups expressed themselves within society. Accordingly, giving up “valuable” objects in particular places would indicate a different way of manifesting a warrior’s identity, which appears now hidden in the funerary rites. However, it may be worth noting that the deposition of swords in rivers in north-east Italy seems to continue a more ancient tradition that begin in the Middle Bronze Age, when swords were consistently interred with the deceased, at least in some cemeteries. Similarly the practice to give up bronzes in wet locations is extended to other metalwork types, which are constantly excluded from mortuary rituals (i.e. spearheads and axes). For the reason mentioned above, I find stronger agreement with Fontijn’s interpretation, according to which these practice could have been related to ceremonial occasions which particular sections of the community took part.

The example of the river Sile (but also river Po, river Chiese and lake Trasimeno, for example) may be informative of how the landscape became highly ritualized through people’s performance: formalized through generation continuity, and acts of memory. An interesting parallel comes from rock art. At Berzo Superiore (Priuli 1991: 973) as well as at Dos de Costa Peta (Fig. 5.9) a conspicuous number of spearheads have been incised on a rock. This evidence has been interpreted as the substitution of real votive depositions, perhaps related to rite of passage to adulthood (De Marinis and Fossati 2004: 356-358). Yet there is no great difference between the making of offerings in a stretch of river or multi-depositional zones, and the respectful inscription
on rocks of these objects: both appear to have been communal ceremonies undertaken
to mark aspects of similar events. They could have marked the opposite ends of the
‘warrior’ state of being: in the former case, weapons were permanently given up
(perhaps marking an end to the state of warriorhood), in the other, they may have been
commemorated as the newly acquired possessions of those just entering this
prestigious stage of the life (and were thus carved but retained).

Another interesting element closely linked to the selection of specific objects to be
interred in particular places is the results of the analysis of spearhead types found in
different contexts. It was not possible to single out a clear pattern but there are a few
cases worth remarking upon. In some instances, spearhead types are related to the
ritual sphere (SLS 10 B) or funerary practices (L39), in other cases decorated
spearheads are only found in hoards (L3; L41). In the case of type SLS 8 spearheads
occur predominantly in wetlands in north eastern Italy and in a later grave in north-
west Italy. A similar trend is attested by type L41 with one spearhead found in a hoard
in central Italy and an identical one found in a tomb in Piedmont (north-west Italy).
According to evidence already noticed by Pearce (1998 a) in the case of swords, it may
be possible to identify the symbolic importance of objects on the basis of the context in
which they were re-contextualized.

To sum up, all the conclusions made so far indicate that the practice of deposition
was not haphazard, rather it seems to follow rules and prohibitions which, with minor
modifications and some regional differences, were maintained across the Bronze Age. I
have demonstrated that besides the selection of the objects to be included in different
contexts of depositions (Chapter 5), there may have been also “structured depositions”
(see above 6.5) as well as a “structured landscape”. Special objects may have circulated
in supra-regional networks (i.e. weapons in major river or in hoards), attesting that they
were given up in a formalized way, in which the selection of the exact context as well
as the natural place in the landscape became a fundamental element in the making of
the Bronze Age world

Having examined the close relationship between objects, places, contexts and time,
the following section will turn attention to evidence for the actual use of spearheads, on
a sample of selected from major Bronze Age contexts. An important aim of this next
part of the thesis is to evaluate to what extent edge-wear observation can provide further insight into the role of spearheads during the Bronze Age.
CHAPTER 7. EDGE-WEAR OBSERVATION OF THE ITALIAN SPEARHEADS

(All the findspots mentioned in the text are distinguished by a number in a bracket, that corresponds to that assigned in Appendix 1. Accordingly all the geographical and bibliographic information will be included in the Appendix and not repeated here. In the case of spearheads from contexts selected for use wear-examination, the number used will be that given to it in Appendix 2)

The use of edge-wear observation in metalwork studies is an underdeveloped method in Italian prehistory which has never been formalized. In the following section I shall firstly explore the major methods of edge-wear analysis (7.1). Subsequently, I shall illustrate the parameters that I have utilised in this thesis (7.2-4) as well as the advantages (7.5) and disadvantages (7.6) of this methodology. Subsequently, I shall explore the categories of completeness of the spears sampled (7.7) and the traces of wear, patination and damage visible on the surface of the objects (7.8). I shall conclude by discussing the potential meanings of the evidence identified within the broader framework of the Bronze Age metalwork (7.9).

7. 1. LITERATURE REVIEW: THE APPROACH TO THE EDGE-WEAR STUDY

Systematic studies regarding edge-wear analysis normally focus on the recognition of use-wear on lithics and bone by means of micro-wear analysis. In contrast, the study of wear on metals receives much less attention in the research literature: one key problem here is distinguishing between pre-depositional effects (resharpening, cutting, recycling) and post-depositional processes (Roberts and Ottaway 2002: 120). Also, whilst experimental metallurgy has flourished, this has seldom been combined with edge-wear analysis, so the results of such studies have been poorly related to archaeological examples. Experimental work has often been devoted to attempting different replicative techniques (such as casting), in order to identify the technological complex behind the manufacture of objects (Ehrenberg 1981: 214-218; Rymne 1983: 48-49). Other experiments were performed in order to simulate the craftwork of ancient people as well as to explore the potential and the efficiency of different materials (Mathieu and Meyer 1997: 333) . On the other hand, edge-wear studies revolved predominantly around the treatment of the surface of the objects in order to: 1) recognize different stages in the in the use-life of artifacts as well as 2) its usefulness in interpreting aspects of behaviour as well as the social structure of prehistoric societies.
Some of the earliest observations were made by Rowlands (1976) who argued that direct observation of post-casting treatment was more effective than metallographic analysis: “…grinding marks can quite often be seen on the blade face of spearheads which suggests that the surface of the casting were smoothed with a fine sand mixture and the blade edges were ground sharp” (ibid. 15).

Similar remarks were made by two later scholars in the volume published by Burgess and Coombs in 1979. Needham (1979) demonstrated how the scratches across the blade-tang junction on the spearhead he analyzed were likely to be “the final shaping of the spear shaft-terminal” (ibid. 5). Savage (1979) identified traces of use on Bronze Age swords in the Watford hoard. He related them to a particular series of actions which could have produced these distinctive marks, as shown in Table 7.1.

<table>
<thead>
<tr>
<th>STAGE IN THE USE-LIFE</th>
<th>EVIDENCE AND ACTIONS</th>
<th>FURTHER NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacture</td>
<td>Grinding – hilt area</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hammer-working</td>
<td></td>
</tr>
<tr>
<td>Maintenance</td>
<td>Longitudinal abrasions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oblique abrasions</td>
<td></td>
</tr>
<tr>
<td>Repair</td>
<td>Grinding – edge</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(To smooth the damage)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hammer-working</td>
<td></td>
</tr>
<tr>
<td>Damage tolerated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(continued use)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final breaking</td>
<td>Hammering</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Putting it on two supports and hammering the central portion of the object</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Putting it on a block and hammering the overhanging end</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Straining</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bending</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Putting one end in a hole and bending by pulling</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Putting one end in a hole and bending by hammering</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Straining</td>
<td></td>
</tr>
</tbody>
</table>

Table 7.1 Summary of marks on swords from the Bronze Age Watford hoard (Savage 1979)

The studies mentioned so far have been conducted on tools and they predominantly revolved around the manufacture and the finishing of these artifacts in order to understand the potential of different technologies and the efficacy of objects. A different approach
was pursued by Kristiansen (1978). This study aimed to combine wear analysis of bronze artifacts in Danish hoards with an interpretation of the economic dynamics of social systems in Bronze Age Denmark. By studying the variation in the degree of use on full hilted swords and ornaments from hoards and graves, the author argued that the circulation and the consumption of wealth varied over time and was unevenly distributed in different areas. In later works (2002, 2005), the author investigated the intimate relationship between the degree of use on swords and social status. A fundamental conclusion was that flange-hilted swords were generally more damaged than full-hilted swords (2002: 325). Such observations led the author to suppose that while the former belonged to professional warriors attached to a chiefly line, the latter were associated to ritual-political leaders and were mostly used for ceremonial display.

A subsequent exhaustive contribution was made by Taylor (1993). The author, influenced by Kristiansen’s study of Danish swords, applied the method of edge-wear observation to the Bronze Age hoards in southern Britain. He believed that (despite the subjectivity of our judgments) the recurrence of common patterns of wear permits metallurgists to make an “intuitive classification” of the use-life of objects (ibid. 45). Accordingly, he identified a wider body of use-wear marks which was consistent with the multiple classes of metal artifacts he considered (Table 7.2).

<table>
<thead>
<tr>
<th>STAGE IN THE USE-LIFE</th>
<th>EVIDENCE AND ACTIONS</th>
<th>FURTHER NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ancient surface marks</td>
<td>Hammering</td>
<td>Manufacture/maintenance</td>
</tr>
<tr>
<td></td>
<td>Fine/coarse scratches</td>
<td>Manufacture/maintenance/damage not repaired</td>
</tr>
<tr>
<td>State of the loop or Rivet hole</td>
<td>As cast</td>
<td>Hole still blocked</td>
</tr>
<tr>
<td></td>
<td>Cleaned out</td>
<td>For use</td>
</tr>
<tr>
<td></td>
<td>Worn or torn</td>
<td>Broken through use</td>
</tr>
<tr>
<td>State of the casting seams</td>
<td>As cast</td>
<td>Casting seams still visible on the object</td>
</tr>
<tr>
<td></td>
<td>Filed down</td>
<td>Grinding</td>
</tr>
<tr>
<td></td>
<td>Hammered out</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Obliterated</td>
<td>Removed</td>
</tr>
<tr>
<td>State of the edge</td>
<td>Asymmetrical</td>
<td>Differential wear and sharpening of the blade (axes)</td>
</tr>
<tr>
<td></td>
<td>As cast</td>
<td>Casting seams still visible</td>
</tr>
<tr>
<td></td>
<td>Hammered out</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Re-sharpened</td>
<td>Heavier use by further hammering for re-sharpening</td>
</tr>
<tr>
<td></td>
<td>Notched</td>
<td>Due to damage</td>
</tr>
<tr>
<td></td>
<td>Broken</td>
<td>Due to damage</td>
</tr>
<tr>
<td></td>
<td>Milled</td>
<td>For swords and spearheads</td>
</tr>
<tr>
<td></td>
<td>Beveled</td>
<td>Coarser grinding</td>
</tr>
</tbody>
</table>

TABLE. 7.2 Summary of marks on metal artefacts in Bronze Age hoards in Southern Britain (Taylor 1993)
Grouping together similar evidence of wear, he subsequently graded them from A (as cast) to E (heavily worn) (ibid. 47). In a similar vein to Kristiansen, Taylor related his observations to the social structure of the Bronze Age societies in Southern Britain. The author then engaged in a series of regional examinations of the material, combining in turn the shift in the level of hoarding, hoard composition and the state of completeness of objects, across different phases of the Bronze Age. Accordingly, the edge-wear study was conscientiously applied in order to detect whether access to metal supplies was restricted in certain periods or not, according to circulation time of different pieces. The author concluded by investigating the role of materials in sustaining political power in the Late Bronze Age.

A rather different approach by Turner provided a fresh perspective on the application of wear analysis to a wider range of archaeological questions (1998). Dealing with the Late Bronze Age metalwork hoards in Essex and Kent, the author demonstrated that a systematic pattern in fragmenting objects could have been detected. Although objects were fragmented to a size compatible with recycling, she identified supplementary treatments which had no clear link with this process: the crushing of complete socketed objects, blocking of socket openings, removal of the wings of winged axes and cutting edges of other artifacts (ibid. 115). By challenging the interpretation of “founder hoards”, she related this evidence to the deliberate destruction of the objects. In much the same way as human life, the latter would have represented a symbolic way of transforming an object from one state to another (ibid. 116).

In line with this study, important remarks about the significance of specific treatment of objects before deposition were made by Nebelsick (2000) and Toune (2009). Nebelsick, challenging the prevalent equation of mixed hoards/scrap hoards, pointed out strong evidence of ritual ‘violence’ upon objects in Urnfield hoards. He believed that the maimed condition of the objects was consistent not with the scrapping process but with complex sacrificial rituals, during which the passage from one state to another was a significant act. Toune also argued that the recurrence of broken metal artifacts in the Rimessone hoard (Latium, Italy) could not be only explained in economic terms. Instead, the deliberate manipulation of objects might be accounted for as part of codified practices and rituals.

At about the same time as Turner, Bridgeford (2000) subjected British weapons to wear analysis in order to provide a comprehensive understanding of the practice of war during a period ranging from 1250 to 750 BC (Table 7.3). This thesis built on previous works
(1993, 1998) of the study of metal objects, which employed both use-wear approaches and metallographic analysis. She methodically selected the material which was in a good state of preservation, excluding heavily corroded swords or swords subjected to conservation techniques. She refined the method as a whole, recording a plethora of marks and relating them to a range of impacts which were tested during experimentation. Subsequently, Bridgeford attempted to test and verify the extent to which marks produced in experimental work matched those from her visual observation of prehistoric artifacts. The author concluded that the majority of the traces were likely to have been caused by metal striking metal as blows cutting into hide, bone, or flesh left instead slight traces or no damage at all. Some of Bridgeford’s considerations about the types of impact may be undoubtedly extended to spearheads as subsequent works have demonstrated (York 2002).

<table>
<thead>
<tr>
<th>EDGE DAMAGE</th>
<th>IMPACT (BASED ON EXPERIMENTAL ANALYSIS CARRIED ON SWORDS)</th>
<th>FURTHER NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowed</td>
<td>Perpendicular and angled impact</td>
<td>Distorted about the line of the edge</td>
</tr>
<tr>
<td>Chipped</td>
<td></td>
<td>Having lost a piece of metal whose depth is less than its length</td>
</tr>
<tr>
<td>Notched</td>
<td>Edge to edge; perpendicular impact</td>
<td>Having a “V” shaped distortion</td>
</tr>
<tr>
<td>Nicked</td>
<td></td>
<td>Having lost a piece of metal</td>
</tr>
<tr>
<td>Scored</td>
<td>Parrying a blow</td>
<td>Having a long narrow indentation</td>
</tr>
<tr>
<td>Torn</td>
<td></td>
<td>Having a jagged rip without any loss of metal</td>
</tr>
</tbody>
</table>

TABLE 7.3. Summary of edge-damage and impacts recognised by experiment and combined against the marks on prehistoric weapons (after Bridgeford 1999)

York (2002) carried out edge-wear study on a collection of metalwork from the Thames valley. By taking into account the signs of wear methodically analyzed by Bridgeford (2000), the author developed a less sophisticated scheme based on four categories of damage (Table 7.4). Following her scheme, the “used and deliberately destroyed” class included most of the types of marks identified by Bridgeford. Subsequently, she underscored different patterns of treatment on objects before deposition, according to the three riverine examples she examined: Wey, Kennet, Cherwell. She demonstrated that either damaged or pristine objects were given to water, while the figure showed an increase in the destruction of swords and spearheads during the Late Bronze Age. However, the main aim of this study was an understanding of the life cycle of the artifacts. The movement of the sun, the continuous flux of the water and the natural course of life were related to the transformation of the material from a raw state to another socially constructed and recognized state. In this perspective, the destruction and the deposition of
objects in watery locations would have made stronger the link between the life and death of the object (*ibid*. 91).

At about the same time as York, two scholars (Roberts and Ottaway 2003), whose work was in line with previous examinations (Kienlin 1995 cited in Roberts and Ottaway 2003; Bridgeford 2000; Kienlin and Ottaway 1998) (Table 7.5), explored the advantages of the study of use-wear which combined results from experimental replicas with the analysis of Late Bronze age socketed axes.

<table>
<thead>
<tr>
<th>DAMAGE CATEGORIES</th>
<th>MARKS</th>
<th>FURTHER NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unused</td>
<td>No damage or lightly damaged</td>
<td></td>
</tr>
<tr>
<td>Used</td>
<td>Nicks, notches, chips, bows and Tears</td>
<td>Metal striking metal</td>
</tr>
<tr>
<td>Unused and Deliberately destroyed</td>
<td>Chopped at right angle to its length Stuck and crushed</td>
<td>Objects rendered unusable. Action which is inconsistent with its primary use.</td>
</tr>
<tr>
<td>Used and Deliberately destroyed</td>
<td>Bent to breaking point Burnt, twisted, distorted and fused to other objects</td>
<td></td>
</tr>
</tbody>
</table>

TABLE 7.4 Schematic table of the evidence of damage on metal artefacts from the Thames Valley (after York 2002)

They investigated whether there was any link between the marks on Late Bronze Age axes and those derived from experimental impacts against either metal or other materials (i.e. wood). The authors reduced their observations to a more generalized scale of wear, graded from “variable light use” to “variable heavy use”, when the marks on axes went beyond the experimental activity. Some axes were found to have “no apparent use”.

Taking into account the multipurpose nature of the objects, and the fact that some socketed axes were still effective as tools after deposition, their study called into question traditional models which focused on a distinction between “functional tools” awaiting recycling and objects with “special status” (for example swords and spearheads) which, contrarily, were perceived in a different way (*ibid*. 134-136). The evidence of variation in the degree of wear demonstrated that the level of use was not a determinant for the deposition of axes. In contrast, they argued, it was likely that particular locations and circumstances marked the passage of objects from “actual tool” to an “offer[ing] to the land” (*ibid*. 136). In addition, the sheer number of deliberately and conspicuously deposited axes led them to question the role of elite as the unique actor in performing of such ritual or votive practices (*ibid*. 135).
TABLE 7.5. Summary of marks recognised on experimental and prehistoric axes (after Kienlin and Ottaway 1998)

A subsequent work carried out by Davis (2006) was devoted to the study of British basal-looped spearheads. The ultimate goal was the evaluation of both their use in combat and the incidence of purposeful damage. In doing so, he adapted Bridgeford’s (2000) and York’s (2002) methodology to his study. The visual analysis of a broad body of basal-looped spearheads was an essential prerequisite in assessing different degrees of use and the nature of damage. Additionally, particular treatments of the blade edge were also tested through the use of replicas. Sources such as photos and drawings were also used (ibid.76). The damage was judged and classified in order to evaluate to what extent the evidence of wear on basal-looped spearheads was consistent with combat-like situations. For “Combat” Davis intended a broad range of activities: real fight, hunting and practice sessions (Table 7.6). The author concluded as follows:

1. Pristine Unused
2. Few nicks
   No combat use
3. Several cuts and notches
   Used in combat
4. Deeper cuts
   Used in combat
5. Severe damage
   Used in combat

<table>
<thead>
<tr>
<th>PARTS OF THE SPEARHEAD</th>
<th>PURPOSEFUL DAMAGE</th>
<th>COMBAT (FIGHTING AND TRAINING)</th>
<th>OTHER ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blade</td>
<td>A break cross the blade and midrib at right angles to the blade edge</td>
<td>When the tip is broken off near the tip</td>
<td>Resharpening, reworking, cutting and chamfering</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Notch, nick, chip, bow, tear, bend</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Severe bend</td>
<td></td>
</tr>
<tr>
<td>Socket</td>
<td>A break across the socket</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wooden shaft</td>
<td>Breaking of the wooden shaft?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TABLE 7.6. Summary of the damage categories of basal-looped spearheads (after Davis 2006)

Signs of combat were also found on specimens deposited in votive circumstances, whereas some others were likely to have been crafted for display (ibid. 98).

One of the latest attempts to explore the efficacy of edge-wear studies was carried out by Harrell (2006). She analyzed a corpus of material at the Museum at the British School at Athens and recorded a vast array of marks (Table 7.7), following and broadening the scheme of previous works. The author’s intent was twofold: (1) test the methodology using mainly unique and prestigious objects including fragmented artifacts, in order to (2) examine how much it is possible to learn about the biography of objects which may have little or no recorded context (ibid. 6) in the absence of any related experimental work on analogous materials (ibid. 36). Given the diversity of the material considered (weapons, tools, votive objects), Harrell’s main concern was not the potential link between wear and activity, but the demonstration that the application of a methodology that uses basic technologies was satisfactory in pointing out particular biographies of objects.

In conclusion, this brief review reveals the significant potential of edge-wear studies in highlighting different stages in the life-span and history of objects. The visual observation of objects has been proved to be a fundamental development in the study of prehistoric metalwork.
It emerges clearly from this overview that there is a lack of analogous studies in Italy. Indeed, the degree of use of an object is generally contemplated on two basic levels, namely pristine versus used objects, which are discarded at the end of their use-life. This enhances

![Table 7.7: Schematic table of the damage categories on weapons and tools at the Museum at the British School at Athens (after Harrell 2006)]

the traditional bipolar model of “votive” versus “functional” deposition. Furthermore, the particular context of deposition (i.e. a river or a lake) is another determinant factor in assessing the votive character of single finds and hoards (see for example Bianco Peroni 1978-1979). Despite this, in the last few years alternative attempts have been carried out: Pearce’s semiotic approach (1998 a) demonstrated that the application of metallographic analysis to a different classes of Italian metal artifacts associated with good contextual
information can offer a key way of exploring not only the manufacture, but also the meaning of objects.

Beyond general statements, what are the contributions that such evidence can provide in understanding ancient practices? A more rigorous examination and definition of use-wear might help avoid the rather simplistic division between ritual and functional deposits (the former explanation often ascribed to situations where the nature of the assemblage and degree of use is ambiguous). In addition, we might be able to bring a more sophisticated understanding to objects which are newly made or repaired by the smith, as - whether they were intended to re-enter circulation or were fragmented for recycling - the deliberate selection of key depositional locations may help us to understand the political (not just economical) motivations behind deposition.

The fact that edge-wear studies have been slow to disseminate through the literature may be attributed to the uncertainty of interpreting the data available. Some authors (Roberts and Ottaway 2003: 119) conceived the lack of interest in edge-wear analysis as arising from the versatile physical properties of bronze itself; the fact that it can be recycled, reworked and resharpened may have been perceived to compromise the reliability of archaeological investigations. Bearing in mind all the problems and reservations about edge-wear studies, it is worth noting that, however, that the above authors demonstrate that classifications of wear are possible. The following section will outline how I have utilized this approach in my research.

7.2. EDGE-WEAR STUDY IN THE PRESENT RESEARCH

The sample of spearheads selected for visual analysis was made by focusing on those with good contextual information, from the Middle to the Final Bronze Age, targeting examples from northern Italy and central Italy: areas and periods highlighted as particularly significant from the analysis presented in chapter 5. This selection was necessary to narrow the available material to a realisable sample of 194 examples. The visual observation of the spearheads in the sample identified certain key criteria relating to their condition, ranging from details of their manufacture to aspects of deposition: ancient surface marks, edge damage, intentional bending, burning and breaking. Post-depositional evidence, for example corrosion, conservation treatments and recent breaks, have been also included (see also Appendix 2.3).

This analysis goes beyond the mere illustration of wear, rather it has the precise objective to demonstrate how crucial the concept of time is, when approaching object life-
cycles. In the time between the production and the discard of a spearhead, the object passed through successive steps: manufacture, use and maintenance. All these treatments (for example continuous re-sharpening and extensive reworking or even putting the object to another use) led to the alteration of the original shape of the spearheads. At the same time, some spearheads’ life-cycles may have been diverted from the standard “production – use – wear and tear – discard” process and interlocked with other social dynamics. As I stated above (7.1) particular factors such as the absence of wear, the exposure to fire or the “ritual killing” may clearly indicate ritual intentions but edge-wear analysis is also capable of making much more subtle observations about different treatments, which are not consistent with simple functional usage. In this sense, the spearheads which entered the archaeological record can inform us about the passage of time, as they bear traces of past events.

In the next sections I shall discuss in more detail the state of completeness of the spearheads (7.3) in the corpus, and the surface condition of spearheads, in order to explain which treatments can be defined as use-related and which resulted from intentional damage (7.4). Corrosion and the marks which derive from post-depositional processes will be also accounted for.

7.3. STATE OF COMPLETENESS

One fundamental step of the methodological approach proposed for this research has been the subdivision of the body of spearheads considered in the sample according to their state of completeness. A table (Table 7.8) has been elaborated in order to discuss and interpret it later on in this study (7.9). Taking into account all the previous works mentioned above (7.1), I have elaborated five categories of completeness and twelve subcategories:

1. Complete: spearhead complete with no evident damage (1).
2. Almost complete: spearhead with few damage over its body (2), or moderate damage on its tip and/or edges (3) or its tip and/or socket (4), which, however, permit a secure reconstruction of both the shape and the length of the object.
3. Broken: spearhead with consistent damage. In some instances only the blade is present (5), while in some others the socket is complete and only part of the blade (ca. 1/2 – 2/3 of the blade length) is still in place (6). More than half of the total length is still in place.
4. *Fragmented:* spearheads heavily damaged. Fragments may refer to: (7) socket complete or damaged and blade largely missing (maximum 1/4 – 1/5 of its total length still in place); (8) edges missing and channel still in place. In this instance, the definition of channel is extended also to the socket, when it is in place; (9) only part of the blade (at least 1/4 – 1/5, but also half of it); (10) only part of the tip; (11) only the socket or part of it.

5. *Multiple pieces:* conjoining parts of a spearhead, which have been deposited together in the same context. The wear-observation that I carried out, tried to evaluate whether the fragmentation occurred in antiquity or owing to post-depositional processes. However, these fragments may have been glued together by conservators, affecting any consideration.

The attempt to tabulate all the spearheads sampled under the five categories provides a vital means of informing interpretation about the meaning of object, according to evidence of wear.
<table>
<thead>
<tr>
<th>COMPLETE (Undamaged)</th>
<th>ALMOST COMPLETE (Few and moderate damage. Length almost complete)</th>
<th>BROKEN (Consistent damage. More than half of the length present)</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Image 1" /></td>
<td><img src="image2" alt="Image 2" /> <img src="image3" alt="Image 3" /> <img src="image4" alt="Image 4" /></td>
<td><img src="image5" alt="Image 5" /> <img src="image6" alt="Image 6" /></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FRAGMENTED (Heavily damaged. Less than half of the length present: approximately 1/3 or 1/4)</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image7" alt="Image 7" /> <img src="image8" alt="Image 8" /> <img src="image9" alt="Image 9" /> <img src="image10" alt="Image 10" /> <img src="image11" alt="Image 11" /></td>
</tr>
<tr>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MULTIPLE PIECES</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image12" alt="Image 12" /></td>
</tr>
<tr>
<td>12</td>
</tr>
</tbody>
</table>

TABLE. 7.8. Schematic table of the state of completeness, according to stated method.
7.4. CONDITION OF THE SAMPLE OBSERVED

The description of the surface condition of the spearheads as stated above includes a number of entries, which has been divided on the basis of the different stages in the objects’ life-cycle. Some of them require further explanation.

As far as manufacture is concerned, if casting seams have not been observed in the sample, this indicates that they have been completely removed during finishing work. In some examples, this process has left striations. Asymmetry, which concerns differences in the thickness of the wall of the metal, may be mainly caused by core misalignment (Fig. 7.1.1). Small circular holes in the metal, especially on the midrib and at a point where the blade and the midrib conjoin, may be interpreted as casting flaws, resulting from gas impurities. The same may be said for larger voids or gaps in the metal, which may be also interpreted as casting defects, owing to insufficient inpouring of molten metal. However, the latter marks may also have resulted from a loosely-attached shaft, whose movement thinned the metal at key stress points (perhaps already affected by imperfect casting) weakening or ultimately breaking them (Fig. 7.1.2). Although pitting surfaces occur frequently on metalwork, its identification is not always straightforward, as it can be easily confused with corrosion (Fig. 7.1.3). Davis (2006: 79) states that “some of the adverse effects could be smoothed away during the finishing work”, although it is not always the case, indicating, perhaps, that the spearhead was poorly finished after casting. Alternatively, such effects may be the result of casting in sand moulds where an uneven moulding surface was achieved (Appendix 2: 2/1).


All the aforementioned conditions occurred during the casting process. The following evidence is closely related to the treatment to which spearheads were subjected after casting. These are principally related to their preparation for use. Grinding marks may be
related to the smoothing down of the casting seams and, generally speaking, these are coarser than the fine striations left on the edges after sharpening. In most occasions, those recur as longitudinal marks, which are prevalent in the hollow between the blade and the midrib, but also on the surface of the blade. In the example shown in Figure 7.2.1 the decoration appears superimposed upon the striations, indicating that it was applied after the preliminary finishing work. However, as Savage has argued, some finer orderly and longitudinal abrasions may also have resulted from polishing them “to a mirror finish” (1979: 223). The abrasions on the fragment in Figure 7.2.2 seem to have smoothed down the inner of a series of grooves on the cutting edge. This evidence suggests that the spearheads were perhaps rubbed with – or also against - an abrader, for example a stone or sand. In contrast, the absence of abrasions on a smooth surface may suggest the use of a more flexible abrader, such as a leather cloth for example (for further details see Savage 1979: 225).

Fine sharpening may occur on unworn spearheads. In these instances, an originally sharp and undamaged/slightly damaged blade may have been deliberately eroded, regaining a smoothed and rounded edge (York 2002) (Fig. 7.2.3).

![Figure 7.2](image1.png)  
Bevels are often notable, while in other instances the edges are too worn and corroded, so that they are only slightly visible (Fig. 7.2.4). They are usually ground on both the edges, but in some rare cases not on both the dorsal side of the object. The sharpening of the edges could also be obtained through fine hammering.

The use-related marks are diverse. Many objects show consistent and sustained usage throughout their lifetime. The concept of use does not only involve combat, but also training practices, hunting and perhaps also misuse (accidental damage, for instance). It may be worth noting that in some instances, for example spearheads which are deliberately broken, it is difficult to distinguish between chips and notches resulting from use-wear or intentional damage. In defining the major concussive marks, Bridgeford’s study (2000) on the surface condition of swords has been very influential.

Chips may represent minor damage and they have been defined as marks whose width is larger than their deepness (Fig. 7.3.1), while niches and notches are categorically deeper (Fig. 7.3.3); bowing is identified by a mark which shows a distortion of the cutting edge, but there is not a loss of metal (Fig. 7.3.2).

Among the concussion marks, distortions are taken to indicate a possible clash with another metal artefact or hard material. Accordingly, the spearhead may have been forced or deflected at an awkward angle, causing lateral distortions or substantial bending and, in some extreme examples, even the breakage of the spearhead itself (i.e. Appendix 2: 2/2). In this sense, the example of the skeleton of Tormarton with the tip of a small bronze
spearhead still lodged in the bones (Osgood 2006: 334), is informative of the use of spearheads as weapons. Bending as a result of concussion with other metal or material, may have been straightened by pulling the blade in the opposite direction (i.e. Appendix 2: 1/14). In some other instances, such violent use may be indicated by worn and torn rivet holes (Fig. 7.3.4).

While the evidence discussed so far is consistent with concussion marks, the following surface conditions can be related to maintenance work. Many spearheads were undoubtedly resharpened several times during their life cycle, ultimately altering the original profile of the blade. Accordingly, this practice may be indicated by the asymmetry between the two edges. In some instances, resharpening occurs in selected portions of the cutting edge, perhaps those more subjected to wear (Fig. 7.4.1). In other occasions, the continuous resharpening cancelled out the incised grooves on the extreme edge (Fig. 7.4.2). Substantial damage may have required extensive reworking. The repairs may have involved either the removal of portions of the spearhead (Fig. 7.4.3) or the chamfering of the edges (Fig. 7.4.4). In the example shown in Figure 7.4.3, it is likely that the socket of the spearhead has been repaired by cutting away part of it.

The hypothesis seems to be strengthened by the fact that there is a hollow still visible above the mouth of the socket, right by the rivet holes. Therefore, it may be suggested that part of the old damage was tolerated in order to avoid cutting away the rivet holes.

FIG. 7.5. Tracing: 1-2. Evidence of the score parallel to the cutting edge (2: black circle); 3. Close-up of the portion of the edge not traced; 4. Step (black arrow) to be perhaps connected with the bottom part of the score. (Photographs by author).

The evidence left by non-decorative tracing work is very rare and difficult to identify. It may have been used to mark out and re-style an existing blade form, or demarcate its edge.
With some hesitancy, I could recognize this treatment in few examples from the same context (Appendix 2: 43). It consists of a scored mark or groove running parallel to the extreme edge. In both the cases examined it seems to stop at the base of the blade where the edge turns. Figure 7.5 presents two examples, which in my opinion may provide evidence of different stages of the same action (Fig. 7.5.1 refer to one spearhead, while 7.5.2-4 to the second specimens). I interpret this, though with caution, as evidence that portions of the edges, which probably needed reworking (whatever the reason i.e. repair, redesign of the profile of the blade) may have been traced out. In Figure 7.5.1, the score is still visible at the base of the blade, above the point where the edge turns. Contrarily, in Figure 7.5.2, it is visible at the base of the blade, but not above it. The two close-ups (Fig. 7.5.3-4) show further detail. In the first one (Fig. 7.5.3), it appears clear that the score was not traced at the point where the edge turns, but only below and above it. The second one (Fig. 7.5.4) shows a step (black arrow), which runs parallel to the extreme edges, also visible as oblique abrasions. Hypothetically, it may represent the bottom of the score, though other interpretations should be borne in mind.

In terms of maintenance and reworking, hammering may include evidence of blows delivered with the intention to reshape or rework worn portions of the spearheads, for example tips. In other occasions, the mouth of the socket might have been hammered to secure it to a wooden shaft (Appendix 2: 13/1). However, in a few occasions concerning large spearheads, further rivet holes may have been added at some point during the use-life of the object, in order to make the hafting of a heavy weapon more secure and effective.

Turning attention to the end of the use-life of spearheads, it is evident in some cases that purposeful damage played a decisive role in their final appearance. This category includes all aspects of damage and wear beyond use. Sometimes this is very clear: for example, severe bending or exposure to fire. The practice of fragmentation can also be interpreted as intentional damage, although this may not always imply ritualised damage. Nevertheless, in some occasions the damage visible on broken pieces appears unrelated with intentions to reduce it to scrap awaiting recycling. In other more subtle instances, visual examination and basic knowledge about the effect that a range of actions may have had upon spearheads is essential in order to understand whether the marks were use-related or not (see Davis 2006: 97; Bridgeford 2000). The “purposeful damage” category covers a range of possibilities, which are considered below:

- One of the attempts is the alteration of the original profile of the blade, for example cutting away or tearing longitudinal portions of it without any loss of metal (Fig. 7.6.1). In
some instances, the intentional destruction of the object appears more subtle than at first glance. Some specimens show breaks across the blade at right angles to the blade edge which are very unlikely to have occurred through usage: they may be therefore be included amongst examples of purposeful damage.

- Severe hammering may leave indentations on the spearhead. In the example in Figure 7.6.2, it is interesting to note that two indentations have a different shape: the uppermost is circular, whereas the second, lower example is more longitudinal. This evidence may indicate that the blows were inflicted using two different instruments. Bows are likely to have resulted from severe hammer blows inflicted on the cutting edge. In some occasions heavy hammering may also crush, flatten and ultimately break parts of the spearhead. It is worth noting that such damage on the midrib and on the socket may indicate that the wooden shaft was removed before fragmentation (Bridgeford 2000: 165).

- Some kinds of distortion also appear to be consistent with purposeful damage, for example, folding and severe bending, which has not been straightened. Savage (1979: 224) provides an insight into a number of possibilities which may have caused bends and breaks, in reference to swords.

FIG. 7.6. Deliberate damage: 1. Tearing longitudinal portion of the edge; 2. Hammer indentation on the socket, probably inflicted with two different tools. (Photographs by author).

They mainly include: pulling one end of the object until it breaks (Fig. 7.7.2); putting one end of it on a hard support, hole or crevice and hammering (Fig. 7.7.1) or perhaps also pulling the overhanging part until it bends and ultimately breaks. The latter may also explain the absence of marks on the surviving fragment, as they may have been inflicted beyond the extent of it. In some occasions, bending may have resulted from a combination of the two methods (i.e. Appendix 2: 30/3).
• Damage around the mouth of the socket, as I have already mentioned above, might indicate use. However, the removal of the wooden shaft may cause tears and perhaps also breaks around the hafting point. The evidence may be strengthened by the presence of mineralised wood in the socket (Fig. 5.7.3). Considering the components which make a spearhead effective for use, we must acknowledge the important role played by the wooden shaft (indeed, in the case of the Tormarton massacre, the shaft was evidently turned round and used as a weapon in its own right: leaving a circular perforation through one man’s skull, Osgood 2006). The deliberate destruction of a spearhead has the clear aim to end its’ previous use-life and it may be also achieved by breaking the shaft, although it is not always intentional or for “ritual” purposes. In fact, it must be said that in some occasions, especially in the case of assemblages contained in pots or pits for example, the breakage of the shaft may also have served the need to fit them into the container.

![FIG. 7.7. Deliberate damage: 1. Fragmentation by hammering; 2. Breakage by pulling; 3. 1. Breaking the wooden shaft (wood found in one socket). (Photographs by author).](image)

Davis (2006: 76) mentioned that the wooden shafts of some of the objects deposited in the river bank or perhaps on a wooden platform at Clifton, are likely to have been removed prior to deposition to ensure that the objects remained in the same spot.
If, in the latter case, damage may not always be judged with confidence, the following evidence seem to provide more certain evidence of the intentional destruction of the objects: in some instances, pieces of metal or small stones have been wedged into the channel of the spearhead blade. Purposeful damage also covers breaks across the blade and midrib at right angles to the blade edge.

FIG. 7.8. Post-depositional marks: 1. Close-up showing modern scores; 2. Close-up showing modern scratches; 3. Close-up showing a modern chip; 4. Close-up showing a red mark on the spearhead, indicating that it was subjected to scientific examinations; 5. Close-up showing a possible modern attempt to resharpened a spearhead edge. (Photographs by authors).

The evidence of spearheads which withstood fire, occurs commonly on spearheads deposited in graves (suggesting inclusion on the cremation pyre) but there is also consistent evidence for this practice from hoards. The exposure of objects to fire is generally explained as part of an intention to defunctionalize or transform them (Van Gennep 1960). Accordingly, this may be the case with spearheads placed with the dead in the funeral pyre or objects which need a specific “ritual” treatment before being deposited.
in a hoard. In all these instances the damage through fire is clear and leaves evident effects on the whole surface of the metal artefact. Nevertheless, in some occasions, spearheads or fragments show different evidence. The best case in point is when edges and blades have been folded or bent without extensive cracking. These specific areas of the object may have been previously heated in order to soften the metal, to facilitate this treatment.

Considering post-depositional marks, I have included: distortions, scratching or scoring, chipping and breaking and conservation treatment. The bronzes may bear scratches and scores from the instruments used to unearth them (Fig. 7.8.1-2). Scratches may also be the result of conservation treatment, which takes the form of cleaning. In these instances, they are easily recognizable by the fact that the marks cut through the patina. Also chips and breakage might occur following post-depositional process and in these occasions the breaks show fresh metal in section (Fig. 7.8.3). Conservation treatment may involve invasive methods used to prevent common diseases of bronze alloys. In some cases, the spearheads have been glued, waxed and repaired, while some others may also have the imprints of scientific examinations and sampling marks (Fig. 7.8.4). The attempt to reproduce or return objects to their original condition (Fig. 7.8.5) represents invasive conservation treatment that was popular in the nineteenth century, and is still occasionally practiced by less knowledgeable finders of antique artefacts. Accordingly, we must be cautious when approaching any such marks on objects.

The aforementioned evidence, identified through edge-wear observations, are considered important in assessing the general degree of wear, which I have distinguished as follows:

- **Unused**: without apparent damage, apart from that derived from post-depositional processes and corrosion;
- **Slightly Used**: without any sustained wear. In these cases minor chips, which may also be not use-related, can be accounted for; I have also gathered under this entry specimens which show evidence of consistent resharpening, but no evident use-related marks. The example in figure 7.9 is a good case in point. It shows that the spearhead was probably resharpened several times as the asymmetry between the two edges seems to indicate. Nevertheless, its’ cutting edges do not show any evident marks;
- **Used**: showing sustained wear. This category includes a vast range of impacts, which result from metal striking metal, or from hitting other hard materials, for instance;
- **Unused/slightly used (incomplete specimens)**;
• Used (incomplete specimens);
• Undeterminable.

The aim of the present study, as I have stated (Chapter 1.8), is not to assess the degree of wear of spearheads in order to discuss their potential use in war, hunting practices or training sessions. Rather my intent is to understand whether or not the combined application of different methodologies allow us to go beyond general statements, informing the archaeological interpretation of different stages in the life-cycle of spearheads. In fact, the mere classification of different marks poses again the problem of considering categories of evidence alienated from a more coherent and unique history. Several authors have tried to provide further details about the use of spearheads on the basis of the edge-wear studies, but such studies have been primarily concerned with the difficulties of distinguishing between different uses.

FIG. 7.9. A slightly used spearhead (Appendix 2: 12/1), which shows evidence of consistent resharpening. (Photograph by author).

Yet as has been argued earlier, Bridgeford’s seminal study (2000) convincingly demonstrated that we can distinguish between impacts caused by metal striking metal, whereas contact with hide, bones, flesh and wood leaves very few traces on bronze weapons, such that these activities are more difficult to recognise. Through experimental
combat with Bronze Age replicas, Davis (2006) has shown that a variety of moves and gestures were possible for combatants holding spears, creating identifiable impacts whereas a number of observable phenomena do not appear to commonly arise from such combat impacts. The author stressed that there is little evidence for the use of spearheads in hunting (ibid. 99), and indeed some other characteristics of spearheads (i.e. exceptional lengths, condition of the edges) may hint at their use for display. Harding (2007: 112) argues that while some damage may have occurred during practice sessions, a blow which leaves an edge notch 2-3 mm deep would have probably been intended to have had lethal impact. Novel experimental work with spearheads is beyond the scope of this thesis, and in any case, its results are unlikely to significantly add to the existing research which has been more strategically focused on specific scientific objectives. However, my combination of edge-wear observations, contextual evidence and typologically-derived chronological information, on a novel body of prehistoric material, can (I believe) significantly advance methodological and theoretical approaches in Italian prehistory. Accordingly, the major advantages and disadvantages of the edge-wear observation will be evaluated in more depth in the following sections.

7.5. THE POTENTIAL OF THE EDGE-WEAR STUDY

The objective behind the use of edge-wear studies is twofold:
1. There is a need to formalize a method of investigation which so far, has not been systematically developed in Italian archaeology, in order to demonstrate that it is possible to retrieve important information about the use-life of spearheads using this approach. This is a worthwhile aim despite problems associated with this under-studied and under-valued category of artefact, which has not always been systematically catalogued or published in detail;
2. To verify the extent to which edge-wear studies can critically challenge traditional models and interpretations, providing more intimate observations on the relationships between objects and individuals.

Having stated the major reasons for the application of edge-wear studies, I shall further discuss some potentials of this method. (1) Assuming that the main goal of this research is to explore the meanings of objects at different stages in their life-cycle, I shall test the potential of edge-wear studies to contribute to this issue. This theme draws upon the theoretical ideas outlined in chapter 2, which hypothesised that objects may change their meaning as they pass from hand to hand, that objects helped forged social interactions, and
that the different stages they passed through amount to a specific life-span or ‘biography’ of the objects themselves. Arguably, these themes are beyond the scope of typological methods but edge-wear studies offer an instrument of investigation for these themes with much greater potential. (2) To this end, in order to understand how the use of wear studies can be advantageous in detecting the “social life of things” (Appadurai 1986), it is important to compare it against the limitations of other methodologies which are normally applied to the study of objects. Again, typological approaches aim to compose a diachronic sequence of types, classifying objects according to a fixed status (that of the objects before they entered the archaeological record) with the end result that the object is depersonalized and its unique history lost.

Thus, from a typological point of view two specimens can be very similar, but their context of find and treatment before deposition may vary greatly and this may prove to be the most significant aspect which distinguishes them. For example, it may prove that similar artefacts are given to the ground at different moments of their use-life cycle. Also the different treatment of objects is fundamental as it might indicate that they were caught up in social practices which varied geographically. The two spearheads, therefore, ended their life in two distinct final destinations. Often typologies are used to investigate the development of the effectiveness of metalwork types, according to changes in their shapes yet edge-wear analysis can contribute significantly to technological studies as well.

Kamphaus (2007) remarked that despite receiving little attention in publications, experimental and use-wear analyses of metal artefacts, has unrealised potential. While in Europe a body of work is increasingly developing this avenue of research (see above 7.1, but also Molloy 2008, 2009), in Italy it generally remains outside academia, apart from rare cases (Martinelli 2004). Dealing with spearheads, authors are always more inclined to consider that the shorter spearheads were used as javelins while the longer and heavier spearheads were used as thrusting weapons (Drews 1994: 191; Snodgrass 1964: 115; Pacciarelli 2006). Pacciarelli (2006: 247-248) analyzed the argument in depth for Italian Bronze Age spearheads and swords. On the basis of some measurements, he related the shapes of spearheads to different modes of warfare, according to a scale of length and weight, arguing that:
1. Short spearheads (8-15 cm ~ 50-100/120 g) were used as javelins;
2. Medium spearheads (16/17-25/26 cm ~ 100-200 g) were used either as throwing or light thrusting weapons, thus being a flexible weapon whose use was not very specialized;
3. Large spearheads (27/28 – 33/34 cm ~ 200-500 g) were mostly used as thrusting weapons by foot soldiers, though their weight did not preclude them from use as a throwing weapon;

4. Extra-large spearheads (35/36 – 46/47 cm ~ 500 > 700 g) were used during the 10th and 9th century as thrusting weapons.

The four categories he identified go hand in hand with a chronological distinction. In the Middle Bronze age, the majority of the spearheads were small, providing an ancillary support weapon to the sword-bearer (toward the end of the Middle Bronze Age most of the swords in the north of Italy are rapiers, though there are some exceptions). Yet Davis (2006: 95) argues for the versatility of the spear against the deficiency of dirks and rapiers, envisaging for the spear a role which was far from subordinate. Subsequently, in the Recent Bronze Age we find the first three classes of length used both for throwing and for thrusting weapons (spearheads are associated with slashing sword and dirks in the southern Italy and with slashing swords in northern Italy); toward the end of the Bronze Age (1200-950 BC) the spearheads outnumbers swords and while the first increases in length the latter becomes shorter (dirks).

Pacciarelli’s study is undoubtedly meticulous in examining the equipment of the Bronze Age warrior in Italy and its variation over time. Nevertheless, we can be critical of some elements of his argument. The example of the skeleton of Tormarton with the tip of a small bronze spearhead (ca. 11 cm on the base of the drawing) still within the pelvic bone may be a good case in point (Osgood 2006: 334). The author supposed that the man was repeatedly speared; eventually, the tip broke off after the pelvis was stabbed and the spear twisted in it. Moreover, a spearhead used in this kind of stabbing mode could cause cracks and breakage both around the peg-holes and at the mouth of the socket (Bridgeford 2000: 146). In line with Bridgeford’s argument, Davis (2006: 93) deemed that small spearheads (very similar to daggers) were designed for thrusting blows, while, larger spearheads used in cutting, thrusting and glancing mode, would end up having concussion marks on the edges.

Combining the evidence provided by the authors with the macro-edge study carried out in this research, I would argue that in some cases, the marks on the edge of the blade would refute the claim that small spearheads were primarily used in a throwing mode (Fig. 7.10). In some other case deep notches on large spearheads would indicate an edge-to-edge impact as well as a cutting and slicing blow (see Davis 2006: 95), which reveal that spearhead is a versatile weapon, whose use cannot be only restricted to thrusting blows.
conclusion, while the use of small spearheads as throwing weapons cannot be ruled out, as well as the use of large spearheads utilised in thrusting mode (as Pacciarelli suggested) the examples examined here demonstrate that a single interpretative logic can be broadened when looking at the actual wear associated with the use of such objects. Edge-wear analysis can thus provide fresh evaluations of hypotheses based solely on form, and broaden our understanding of martial practice and combat tactics in the past (see below 7.9).

The potential of experimental analysis in the study of the Bronze Age metal artefacts is generally acknowledged and has been used to inform how a bronze object might be employed or utilised. There is a widespread belief that the use of experimental replicas, combined with metallurgical analyses, helps validate what is otherwise seen as a very subjective endeavour (Taylor 1993; Bridgeford 2000). Nevertheless, whilst she acknowledged the benefits of experimental work, Harrell (2006: 37), referring to the Kienlin and Ottaway’s work (1998), argues that the specific categories of marks produced on replicas of axes (asymmetry or bluntness of the blade) are visible to the naked eye and therefore capable of systematic identification and description at a macro-level.

FIG. 7.10. Left: Close-up of the tip of the spearhead from Casaroldo di Samboseto (PR) (Appendix 2: 12/2) with two nicks on the cutting edges. Right: Close-up of the crack at the mouth of the socket. (Photograph by the author).

Experimental work may help to answer research questions such as “What was this tool used for?” or “How did they make it?”; however, the intimate relationship between object and individuals cannot be addressed by such studies, beyond certain aesthetic observations. It is in this sense that macro-wear studies combined with contextual information yield illuminating results. I have already discussed the fact that two spearheads can be very similar in shape. I can go further and speculate that a hypothetical
experimentation might corroborate the same use for both the specimens. Nevertheless, the different treatment at the close of their life can help suggest that these objects were imbued with different values or had different life histories.

Furthermore, Roberts and Ottaway (2003) carried out experimentations on replicas of socketed axes, identifying their predominant use in woodworking activities as well as some evidence for metal impacts, through micro-wear analysis. Although significant, such micro-wear results do not radically alter interpretations that might be gleaned from other methods. In this specific case, the use of socketed axes in woodworking can be intuitively deducted from the multi-purpose nature of the object itself; unsurprisingly the micro-wear analysis supports a hypothesis which might be reasonably inferred from the form of the socketed axe. Olausson (2005: 296), reviewing the two volumes published on the occasion of the Congress “Prehistoric Technology’ 40 years later: Functional Studies and the Russian Legacy”, made an evaluation of the contribution of current archeology in the use of micro-wear analysis since Semenov’s last article published in 1975. The author expressed her fear that probably few improvements have been made since then, pointing out the “banality” of some edge-wear research (ibid. 296). Accordingly, she warned against looking only at the functional aspect of the object, disregarding the “social implication of artefacts” (ibid. 296); the latter was considered by the author as the new direction that functional studies should pursue. Furthermore, the principal limitations of micro-wear analysis, namely corrosion and post-depositional damage, can be overcome by the examination of macro-wear (Roberts and Ottaway 2003: 137).

In summary, I have demonstrated that macro-wear examination of metal artefacts is an unexplored field in the Italian mainstream archaeology, with considerable potential for stimulating new lines of research.

7.6. DISADVANTAGES OF THE EDGE-WEAR STUDY

Though macro-wear studies are still in their infancy, they can rely upon comparative materials offered by previous studies. Yet by itself, it cannot offer conclusive proof and it is of course limited by a number of constraints. One of the first problems the archaeologist may encounter are the effects of heavy corrosion and post-depositional processes, so that the integrity of the blade may be completely lost or altered. The chemical composition of the parent soil is determinant in the process of patina formation, which may mask wear on slightly used objects. As has been discussed above, post-depositional affects from conservation procedures and modern damage, for example, can restrict scientific
examination. Where an object has been heavily worn or reworked or damaged, these latter traces may substantial hide or even remove traces of previous use. All these factors together create a degree of uncertainty which needs to be acknowledged. The method, therefore, is not unproblematic, yet when combined with other methods, some of these issues can be identified and isolated (see Roberts and Ottaway 2003: 129). Thus far, I have discussed the principles, potential and problems associated with this method. In the next section, I will move on to consider the reconstruction of personalized life histories of spearheads, according to their associations and traces of wear.
7.7. STATE OF COMPLETENESS OF THE ITALIAN SPEARHEADS AND EDGE-WEAR OBSERVATION

The following sections will explore more in depth the state of completeness of the sample of the Italian spearheads, across the three phases of the Bronze Age (Fig. 7.11, 13, 15). In order to evaluate the statistical significance of these patterns, I have broadened analysis to include the wider group of spearheads studied in this thesis. Three more charts (7.12, 14, 16) have been created in order to evaluate (1) the reliability of the sample, combining the two patterns (sample vs. overall database), (2) to have a more comprehensive understanding of the potential meaning of the state of completeness of Bronze Age spearheads. This data will be also be used to give insights into the deposition of broken materials in Italian hoards. The last section will present the macro observations of the spearheads sampled (7.8).

7.7.1. MIDDLE BRONZE AGE

The Middle Bronze Age spearheads in the sample number 58. The first chart (Fig. 7.11) shows the variability of spearheads in each subcategory according to the context of find. The subcategories which are not represented have been excluded (6, 11).

The great majority of the spearheads from settlement sites are complete (1) or almost complete, with few exhibiting damage (2) or with small parts missing (tips or parts of the sockets) (4). Fragments appear poorly attested; in the few cases documented, they are mostly represented by parts of blade and tip (9-10). Spearheads contained in hoards provide the dominant figure. 62% of the specimens shows no damage (1) or little damage, and where this does occur, it is predominantly on the cutting edge as well as on the tip area (2-3), but also around the mouth of the socket (4). The remaining 38% is included under the “Broken”, “Fragmented” and “Multiple pieces” categories, with an evident bias toward parts of channels (8). Fragments of either lower blade and socket (7) as well as blade fragments (9) provide a poor figure. The figure provided for the spearheads deposited in identifiable locales refers mainly to complete, almost complete and multiple pieces: the only piece with an uncertain context is incomplete, with part of the socket missing (4). The overall picture from settlements sites shows a dominance of complete objects; in contrast the “Broken” and “Fragmented” categories are either not represented or scarcely (i.e. fragments of sockets 6, 11), with a dominant bias towards parts of the blade.
The second chart (Fig. 7.12) has been created in order to verify the reliability of the sample selected in the present research, extending the state of completeness to a larger number of spearheads, drawn from the wider database. The few specimens from burials, which have not been considered in the sample are (respectively): complete (Palazzo: 35) and two joined pieces (Bellaguarda: 2). Despite this, the second chart does not show major modifications, compared with the previous one (Fig. 7.11). Accordingly, the attempt to extend the analysis to a larger number of spearheads seems to confirm and, to some extent, even strengthen the interpretations drawn above.

![State of completeness of the spearheads in the sample: MBA](image1)

**FIG. 7.11.** State of completeness of the spearheads in the sample: Middle Bronze Age

![State of completeness of the sampled and not-sampled spearheads: MBA](image2)

**FIG. 7.12** State of completeness of the spearheads sampled and not-sampled: Middle Bronze Age
7.7.2. RECENT BRONZE AGE – RECENT BRONZE AGE 2/FINAL BRONZE AGE 1

The sample of the spearheads selected for this period amount to 50. The specimens deposited in tombs are scarcely represented: there is only one spearhead blade documented in this period (5) and it falls under the “Broken” category (Canegrate: 54).

The great majority of the spearheads from settlements (ca. 60%) are complete or almost complete (1, 2), thus showing a certain similarity with the previous period; the “Broken” and “Fragmented” categories are poorly represented, showing, however, a bias toward blade fragments. A modest figure is also provided by the “Multiple pieces” category. In contrast, hoards provide us with a more variable figure, compared with the previous phase: although a large number of spearheads are complete (1) or almost complete (2-4), there is a consistent bias toward fragmentation (Fig. 7.13); all the subcategories appear equally represented (7-11). Interestingly, even within hoards, the occurrence of broken pieces is underrepresented; in the few instances documented, they fall under the subcategory of spearheads with more than half of the blade still in place and socket complete (6). Spearheads from multiple and single depositions are predominantly complete pieces. The only two specimens with uncertain find contexts are two complete spearheads respectively from Celano and “near Lake Fucino” (Appendix 2: 44-45).

This first chart has been contrasted against a second one (Fig. 7.3.4), which extends the state of completeness to a larger number of spearheads (ca. 48 are the specimens not sampled for which I was able to gain information about their state of completeness). The figures provided by settlement sites are approximately equal, as the spearheads not considered in the sample are very few. Also the occurrence of spearheads from hoards in each subcategory results quite unchanged, though their rate in the subcategories 3 and 4 appears slightly reduced, as the only specimens which fall under these two subcategories are those sampled. However, the whole figure, represented by spearheads in hoards, shows minor modifications. The figure provided by the spearheads in particular places in the landscape strengthens the pattern presented in the first chart, as there seems to be a dominant rate of complete objects.
FIG. 7.13. State of completeness of the spearheads in the sample: Recent Bronze Age and Recent Bronze Age 2-Final Bronze Age 1

FIG. 7.14. State of completeness of the spearheads sampled and not-sampled: Recent Bronze Age and Recent Bronze Age 2-Final Bronze Age 1
The spearheads in the sample attributed to the Final Bronze Age and to a period ranging from the Final Bronze Age and the beginning of the First Iron Age, amount to 85 specimens.

In this period the specimens deposited in tombs offer a new context to consider as their number increases in this period (Fig. 7.15). They mainly consist of complete (1), almost complete (2) and multiple pieces (12). The number of the spearheads from settlement sites is trivial in this phase (2, 10, 12). The figure provided by hoards differs greatly from the previous phases. The number of the spearheads which are complete (1) or almost complete (2-4) provide a meagre figure, compared with the previous periods. In strong contrast, the dominant figure is represented by fragmentation, with a consistent bias toward parts of blades (9) and tips (10); socket fragments are also attested (11) as well as broken pieces which have both socket and more than half of the blade still in place (6). The only one spearhead from a multi-depositional zone, falls under the “Almost complete” category, showing damage at the mouth of the socket (2) (Pertosa cave: Appendix 2: 46/2).

The first chart has been contrasted against a second one (Fig. 7.16), which extends the state of completeness to a larger number of spearheads (ca. 73 spearheads). The whole figure provided by the latter chart is almost unchanged, with a few modifications. Considering the spearheads contained in hoards, what emerges clearly is that the high rate of the subcategories already discussed above seems to be confirmed and even strengthened by the second chart (7, 9 and 11). In contrast to the first chart, however, it shows an increased number of the complete (1) and almost complete (2) spearheads, since this calculation brings in a number of such examples. There were no examples of single depositions included in the edge-wear sample but when they are considered (from a variety of different landscape locales), they reveal a bias towards “Complete” (1) and the “Almost complete” (2) categories. They can also have (though rarely) either little damage on the cutting edges (3) or consistent parts missing: the socket for instance (5).

Overall, despite the minor variations mentioned above, the whole figure appears slightly changed, compared to the first chart. Interestingly, the rate of spearheads from hoards in each subcategory appears confirmed by the second chart, indicating an increasing frequency of fragmented spearheads in the course of the Final Bronze Age. This suggests the fragmentation of spearheads seen in multiple hoards is a real and significant pattern, part of a Late Bronze Age trend observed by other authors (see Chapter 1.6).
In conclusion, it clearly emerges that the spearheads from tombs are mainly multiple and conjoining pieces (12). The great majority of the Bronze Age spearheads from settlements (around 70 %) as well as from multiple/single depositions are complete (1) or almost complete (2-4). The fragments of spearheads from settlements are predominantly represented by parts of the blade (9) and tips (10). In contrast, broken and fragmented spearheads are predominantly included in hoards, especially towards the end of the Bronze Age.

It is interesting to ask whether or not there are any finer patterns to be distinguished between different parts of spears included in hoards, as well as whether there is any evidence of geographical variation, which may have imbued the activity of fragmentation with particular connotations. On the basis of the evidence available, it is evident that during the Middle and Recent Bronze Age, weapon hoards include a large number of complete spears (Cascina Ranza: 9; Pila del Brancón: 92; Sassello 103). Also the few spears contained in tool hoards are often complete (Soncino: 110; Castions di Strada: 59). Contrarily, fragmentation, though attested (Gerocarne: 71; Merlara: 80) does not represent the main feature in these phases of the Bronze Age, while it becomes more evident subsequently. Importantly, this is not only true for spearheads, but also for other categories of metalwork.

During the Final Bronze Age and the Early Iron Age, the category of intact or almost complete spearheads is underrepresented in hoards containing between 10 and 20 spears, with one exception (“Italia Meridionale” hoard: 121). Apart from one ornament hoard (Contigliano: 136), they are predominantly weapon and axe hoards (Piediluco: 179; Goluzzo: 149; Poggio Berni: 180). Contrarily, the recurrence of complete and broken spearheads is approximately equal in hoards containing from one to six spearheads: intact specimens occur either in weapon/axe hoards (Malpensa: 158; Elba Isle: 140; Monte Primo: 167) or in tool/ornament hoards (Colle le Banche: 135; Gradisca sul Cosa: 74; Campese: 133; Rhèmes St. Georges: 98, two conjoining pieces; Limone: 154, Casalecchio: 134, conjoining pieces), while fragments occur in axe hoards (Capo Cimiti: 122) as well as in tool (Frattesina: 143) and in ornament hoards (Aprilia Rimessone: 124; Santa Marinella: 185) (cf. also Table 5.1). There not seem to be any particular pattern, apart from the fact that the spearheads in weapons hoards are generally complete, compared to the other categories of hoards and that hoards containing few spearheads are more likely to have complete specimens.
The latter consideration appears more interesting in light of the fact that within particular categories of metalwork, some of them might have been treated in a different way. For example, the Limone hoard (154) contains a large amount of ornaments and amongst them at least one spear remains intact. The same contrast occurs in the axe hoard of Monte Primo (167): almost all the axes are damaged, while the four spearheads are perfectly preserved. Four undamaged spears were also included in the Malpensa hoard amongst intentionally broken and folded objects (158). Contrarily in the Contigliano hoard (136), the only intact object is an unfinished axe (Ponzi Bonomi 1970: 153). Overall, 19 out of 25 hoards containing spears, have at least one - or more than one – intact spearhead. This evidence may have important implications in the treatment of objects before their deposition in hoards during this period, which appears far from accidental.

I have already mentioned that the practice of fragmentation becomes more evident by the Recent Bronze Age onward, but it is only by the Final Bronze Age that it appears to be a distinct feature. It has been noted in central-western Italy that at least three hoards, containing between 10 and 20 spears (136, 149, 179), show a consistent bias toward blade fragments. Interestingly, all of them contain the same spearhead type (Appendix 1.2: Type L40, Table 17). A similar figure is provided by two more hoards with a lower number of spears (Appendix 2: 35; Capo Cimiti: 122). Apart from these few cases, there do not seem to be any other geographical inequalities: the imbalance is evident in single hoards and it is not appreciable at a larger regional scale. The Poggio Berni hoard (180) is well provided with socket fragments, although the evidence of one hoard cannot constitute a feasible geographical pattern. Notwithstanding the lack of a reliable comparable figure, it may also be read in terms of different treatments and motivations behind the inclusion of selected parts of spearheads, within hoards.

The imbalance in the frequency of different parts of objects in hoards brings about another issue: if we assume that there were certain parts which were selectively included in hoards, there were also other fragments constantly excluded and retained for different reasons (Bradley 2005: 151-157). Yet Needham suggests such selection may not represent original (statistically significant) patterns of selection, since some elements may have been systematically preferred for retrieval from hoards (1988) (see also Chapter 1.5-6 for a broader discussion). In a different way, the recurrent contrast between complete and incomplete, new and old, usable and unusable objects is also discussed by Brück (2004: 320). In the case of the objects deposited in graves, she discusses this as a way to (re)-
forge relationships and ties within and outside the community (cf. also Chapter 1.6, in particular Lehoërff 2009; below 7.9 results).

Supposing more complex nuances of meaning behind the deposition of objects in hoards, we might infer some kind of deliberate selection: how can edge-wear analysis assist this study of the specific connotations of certain objects, or even specific fragments of particular objects? Unfortunately, archaeological evidence does not always provide us with satisfactory information for the interpretation of the contrasts amongst metalwork types included in hoards (i.e. the imbalance in the proportion of the parts of objects may also be due to different preservation or to the circumstances of the recovery). However, in the next section I shall demonstrate how edge-wear observations may provide an insightful tool in identifying that differential treatment of spearheads existed, at least in some cases (see below 7.9 results). The unusual connotation of the deposition of broken materials has never been methodically investigated in the field of Italian prehistoric metalwork, and this attempt may represent the preliminary stage of a new avenue of research.
FIG. 7.15. State of completeness of the spearheads in the sample: Final Bronze Age and Final Bronze Age 3/Early Iron Age 1

FIG. 7.16. State of completeness of the spearheads sampled and not-sampled: Final Bronze Age and Final Bronze Age 3/Early Iron Age 1
7.8. EDGE-WEAR OBSERVATION

The observation of the objects’ surface is considered important in establishing their degree of wear. A link between the degree of an object’s wear and their possible social and economic implications has already been taken into consideration by some authors (Kristiansen 1978; Taylor 1993). These considerations mainly rely upon the fact that the end of an object’s life-cycle does not always coincide with the end of its use-life and that it could have been deposited at different stages. This notion may be apposite for spearheads. In fact, some of them show none or merely a little damage before being discarded, indicating that they were probably at the beginning of their use-life. Other specimens may have been resharpened but show only slight use before being discarded. Sometimes, fragments show no evidence of damage (beyond their final cutting). All this evidence seems to indicate that, at least in some occasions, the selection of the pieces to be put in the melting pot would not always be consistent with their degree of use. Accordingly, the idea that the more a piece is worn, the more it provides a perfect candidate for the scrapping and recycling process, is not always the most feasible explanation. In contrast, it is likely that the reasons behind the end of the use-life of an object through fragmentation may have been diverse: diverging from the contemporary economic and functional logic of the modern thought.

The previous section showed that there may be a significant relationship between spearheads and their state of completeness, according to the context of deposition. The following attempt will investigate the relationship between spearheads and their degree of wear, according to chronological and contextual variations.

7.8.1. TOMBS

Considering the spearheads deposited in burials, the data collection comes from two different sources. Ten specimens have been subjected to direct visual examination. The information about the condition of four more spearheads relies on photographs and detailed descriptions (T. 22 and T. 51 at Morano sul Po, Bissone Pavese, Venturino Gambari 2006: 28, Fig. 26-27) as well as personal communication (Bellaguarda: Reinhard Jung personal communication). In the case of the tomb of Via Gorio (190) the spearhead was shafted and fixed in the showcase and it could not be taken for visual examination (Fig. 7.18). (The four spearheads from the cemetery of Oppido Mamertina (172) in
southern Italy have not been considered, since they fall outside of the key case study area. The great majority of the spearheads can be attributed to the Final Bronze Age. The condition of the surface of the spearheads examined can be explored according to the principal stages in the object’s life-cycle:

**MANUFACTURE**: all the spearheads deposited in graves appear well executed. In fact, the casting seams were completely removed. Moreover, 9 out of 15 specimens have a fine decoration, which in some instances is very simple, but in other ones complex patterns of lines, concentric circles or hatched triangles, make them very elaborate. (NB the 34% of the spearheads with decoration can be divided as follows: 29% in hoards, 4% in tombs and 1% in settlements).

Other evidence linked with manufacture processes are scarcely visible, owing to the fact that the majority of the spearheads have been exposed to fire. However, considering the pieces which do not appear to have been included on the pyre, in a few occasions it was possible to document grinding marks (Appendix 2: 5/1) sharpened edges (Appendix 2: 5/1; Bissone: 127 and Via Gorio: 190) and bevels (Appendix 2: 5/1; 7/1).

**USE-LIFE AND MAINTENANCE**: the exposure to fire of some spearheads hampers any considerations about marks resulted from use on these artefacts. Nevertheless, some other pieces show evidence which may be interpreted as use-related. Only two concussive marks might have resulted from impacts: Luino (Appendix 2: 7/1, Fig. A.79) and Bellaguarda (Reinhard Jung personal communication). Other evidence of use may involve: a blunt tip (Appendix 2: 7/1, Fig. A.78); continuous resharpening, which in the case of the Cava Molteni (Appendix 2: 6/3) (Fig. 7.17) reducing the blade at such a point that the midrib and the tip protrude from the line of the blade edges. In other instances, the socket has been subjected to damage, either around the mouth of socket (Appendix 2: 9/1) or longitudinal cracks (Appendix 2: 6/3, Fig. A.74). It may be worth noting that in the latter case the longitudinal damage and the break above it may be connected. If my supposition is correct, the damage may have occurred during the removal of the wooden shaft, which ultimately broke the socket. In at least three instances, the spearheads appear perfectly preserved or slightly used: T. 22, Morano sul Po; Bissone Pavese; Via Gorio (Fig 7.18-19).

**END OF THE LIFE-CYCLE**: the most tangible evidence of purposeful damage is the exposure to fire of some of the spears, according to the funerary ritual which involves the
placement of selected objects on the pyre. The evidence of fire appears unequivocal at least in six cases: T. 292 and Cava Manzoni (Appendix 2: 6/1, 6/2, Fig. A.71-72); Ponte Nuovo (Appendix 2: 32/1, 32/2, Fig. A. 234, 238); Desmontà (Appendix 2: 33/1, Fig. A. 239); T. 51, Morano sul Po (Gambari 2006: 203). This funerary practice is documented in north-west and north-east Italy, thus indicating similarities between the two areas. In two cases, the exposure to fire is only supposed and in absence of metallographic analysis it remains doubtful (Canegrate and Cava Molteni (Appendix 2: 6/3, 5/1, Fig. A.67 B-68, 75).

In the case of the T. 110 of Canegrate, the author (Rittatore Vonwiller 1956-1957: 24) mentioned, along with other objects and vessels, a spearhead blade and fragments of a twisted socket, which unfortunately he did not published. According to Rittatore Vonwiller (1956-1957), it is likely that the fragments of socket, which he has defined “contorti” (twisted, deformed), may have shown a surface condition compatible with exposure to fire. Fascinatingly, the spearhead blade has a glossy-blackish patina over the three-quarters of its length and its surface appears smooth and polished. This surface condition does not seem to be consistent with fire. However, the remaining one-quarter, which coincides with the lower break at the base of the blade, shows a rough brownish-reddish patina (Appendix 2: 5/1, Fig. A.67 A-B). I was concerned at the difficulties in interpreting this evidence, but, although it can be only confirmed by metallographic analyses, it may be likely that the spearhead was deliberately broken and the socket placed on the pyre with the deceased. This would explain a radically different appearance between the two fragments. Meanwhile the blade itself may have been differently exposed to substances in the depositional context: perhaps the lower portion was in contact with hot ashes whereas the upper blade was protected in some way. There is growing evidence for the different treatment of parts of objects intentionally broken during funerals. For example at Reardnony More, County Tipperary, the blade of a razor was placed on the pyre, while its hafting plate was torn off prior to deposition and perhaps retained for some reasons (Brück 2004: 320). Gambari (2006: 203), commenting on the T. 51 at Morano sul Po, argued that the sword and the spearhead were deliberately broken before being placed on the pyre and only few fragments of the spearhead were juxtaposed with other objects within the grave.

In some occasions the evidence of fire is associated with the deliberate intention to maim the spearhead. Severe damage occurs prevalently on spearhead blades and it generally includes: crushing, distortion and indentations on the edges and midrib (i.e. Appendix 2: 6/1, 33/1, Fig. A.69, 239 A) as well as folded edges (i.e. Appendix 2: 6/2, Fig. A.72). Interestingly, the sockets of those spearheads subjected to purposeful damage
remain in fine condition, as they do not show any particular deformation. It may be possible that deliberate damage to the spear was focused upon the blade, whilst the socket end provided a useful point to hold during the process, leaving this relatively unscathed.

Breakage may have been caused through straining and pulling as well as hammering; 8 out of 15 spearheads examined are broken (I have excluded the specimens of Bellaguarda, because I could not ascertain whether the breakage was deliberate or not). Standard breakage involves the separation of the socket from the blade (Appendix 2: 5/1, 6/1-3), while in other occasions the blade and/or the socket is fragmented further (Appendix 2: 32/1-2, 33/1; T. 51, Morano sul Po).

FIG. 7.17. Spearhead from the Cava Molteni (Como-Lombardy). (Photograph by author).

FIG. 7.18. Spearhead deposited in the tomb of Via Gorio (Como-Lombardy) NB with modern haft. (Photograph by author).
7.8.2. SETTLEMENTS

The spearheads from settlements subjected to visual examination number 40 out of 64. All the sites analyzed are located in northern Italy and they mainly consist of Middle-Recent Bronze Age pile dwelling and terramare sites. Four specimens are dated to the Final Bronze Age (one from Fondo Paviani and three from Frattesina: Appendix 2: 31/1; 34/1-3). The information about the surface condition of one of the five spearheads from Coppa Nevigata (Foggia-Apulia) has come from the detailed description provided by Mosso (1909:248) (137). The latter, although it is outside the area sampled (central and northern Italy), seemed of great importance as it documents the presence of an as-cast specimen in a settlement. No similar evidence has been identified on the spearheads in the sample. Amongst the burnt objects from the site of Poggio Rusco, Tosatti (1984: 194) also mentioned three spearheads.
MANUFACTURE: the great majority of the spearheads documented in settlements are well executed as a whole, while in a few instances, they appear poorly finished (Appendix 2: 20/1, 24/5, 25/1, 28/1, Fig. A. 122-125, 148A, 149, 160). In the latter instances, the major evidence comes from what has been interpreted as casting defects. It does not mean that the spearheads were not used, as a number of them show marks which may have resulted from the stress incurred through use, but probably they were more weak and subject to quick breakage. Core misalignment, indicated by the different thickness of the wall of the spearhead, has been also detected (i.e. Appendix 2: 39/5, Fig. A. 325).

Insufficient impouring of molten metal may have caused small holes or thinner portions, which made the spearhead more vulnerable. Accordingly, larger voids probably affected the extensive use of spearheads, leading ultimately to breakage, where those vulnerable parts already weakened by insufficient fill of molten metal during casting processes, finally cracked. In the majority of the cases, large voids indicate that such imperfections was tolerated, as the resharpening of some specimens may indicate (i.e. Appendix 2: 25/1, Fig. A. 149).

Evidence of finishing work has been documented in almost all the specimens examined, apart from those heavily damaged by corrosion. This mainly involves grinding marks, polished surfaces, sharpened edges, bevels and decoration. The latter is not very common on spearheads from settlements and when it is present, it is generally simple (Appendix 2: 2/1, Fig. A. 47; 34/2, Fig. A. 243), apart from one case (Appendix 2: 34/1, Fig. A. 241, cf. Appendix 1.1, Table 21.1).

A conspicuous number of spearheads show evidence of fine sharpening, represented associated with bevels and grinding marks. In these cases, edge damage or reworking has been documented only rarely, indicating that perhaps they were lightly or not used. Among them, the majority of the complete and undamaged spearheads (4 out of 8) were found in pile dwelling sites (Appendix 2: 2/1; 24/2; 26/2; 37/1, Fig. A.48, 139, 157, 258-260). In the other four instances (Appendix 2: 24/1, 3, 5, 26/1), there may be evidence of minor and isolated use-related marks, though the pristine condition of the spearheads do not rule out other possibilities (i.e. accidental or post-depositional damage) (Fig. 7.20).
The situation appears slightly different in the terramare area, where only three out of eleven spearheads appear unworn (Appendix 2: 15/1-2, 17/1, Fig. A.102, 104, 110). Five spearheads bear marks of usage, associated with finishing work (10/1, 11/1, 16/1, 23/1, Fig. A.81, 87, 108-109, 132; 22/1, Fig. 129), while in one instance, the condition of the surface did not allow me to assess the degree of use (Appendix 2: 21/1, Fig. 126). In one case (Fig. 7.20: 12/2), the spearhead remains in a good condition, apart from two nicks approximately halfway up the length of blade. Although these marks may have resulted from use, the spearhead should be taken as slightly used, with a short life-use (see also Appendix 2: 16/1, Fig. 107-109, which may represent a similar case).

Three more unworn or lightly used specimens, showing either evidence of finishing or poorly finished work, were found in other Middle and Final Bronze Age settlements (respectively Appendix 2: 27/1, 28/1, Fig. 159, 160 and 34/1, Fig. 240). Fragments of tips have been found at Frattesina (Appendix 2: 34/2-3, Fig. 243, 246) as well as at Santa Rosa di Poviglio (18/1-3, Fig. A. 117-119).

USE-LIFE AND MAINTENANCE: the spearheads with evidence of use number 22. Usage has been inferred in relation to concussion marks strictu sensu (notches, nicks, chips,
bowed areas etc.) and maintenance work such as resharpening and reworking. Only three Middle-Bronze Age spearheads come from pile dwelling sites (Appendix 2: 2/2, 24/4, 25/1, Fig. A. 51, 140, 144, 149; perhaps 24/3: minor damage around the mouth of the socket, see above for further details, Fig. 7.20); 15 Middle-Recent Bronze Age spearheads and one early Final Bronze Age specimen have been found in *terramare* sites (concussion marks and/or maintenance works: Appendix 2: 10/1, 11/1, 12/1-2, 13/1, 16/1, 17/2, 18/1-2, 22/1, 23/1-2, 31/1, Fig. A. 81, 87, 89, 92, 95, 107, 113, 117-118, 129, 132, 134-135, 233; only maintenance works: 14/1, 17/3, 19/1, Fig. A. 98, 115, 120).

The chart in Fig. 7.21 shows that notches and nicks are more likely to occur in the lower portion of the blade and, to a lesser extent, in the tip area. The evidence at the angles of the blade is always associated with marks on the central portion of the blade. Bowing occurs prevalently at the angle or in the middle of the blade, but never in the tip area. Chips do not provide a comparable figure as they may be easily confused with other kind of damage.

![Diagram](image)

**FIG. 7.21.** The recurrence of concussion marks on spearhead blades from settlements.

Turning attention to maintenance works, the evidence of resharpening and reworking is documented on 11 specimens: three from pile dwelling sites (Appendix 2: 2/2, 24/3, 25/1, Fig. A. 51, 142-143, 151-152); 7 from *terramare* sites (Appendix 2:12/1, 13/1, 18/2, 14/1, 17/3, 19/1, 31/1, Fig. A. 89, 96, 99-101, 115-116, 118, 120, 233, ); one from Frattesina settlement site (Appendix 2: 34/2, Fig. A. 243-244). In some occasions the blade may have been resharpened several times, ultimately altering its original profile (in particular Appendix 2: 2/2, 12/2, 31/1) (Fig. 7.22.1). Repairing involves cutting away portions of the spearhead in order to smooth down previous damage (i.e. Appendix 2: 25/1, 14/1) (Fig. 7.22.2).
7.22.2). Flattened and rounded tips has been taken as a sign of continuing resharpening (Appendix 2: 12/1, 34/2, 17/3) (Fig. 7.22.3), as well as damage around the mouth of the socket as attempts to secure the wooden shaft to the spearhead, through hammering (Appendix 2:13/1 24/3, 19/1) (Fig. 7.22.4).

END OF THE USE-LIFE: one spearhead shows marks which seem to be inconsistent with its primary use (Appendix 2:17/2, Fig. A. 113-114). Two notches are evident on the left edge. Apart from these marks, the cutting edge does not show major damage and the original bevel is still visible. These marks may be use-related, though other interpretations cannot be ruled out (Fig. 7. 23. A). The right cutting edge shows a series of adjacent indentations; they may have delivered through a blunt object, as they are never superimposed to one another. This kind of damage is very unlikely to have occurred during use, but rather it seems intentionally done. The blows may have been inflicted before the tip has broken off, as one indentation is truncated across the break. No evident distortions are apparent in association with the breaks and it is likely that the piece was broken in antiquity after the right edge was already altered (Fig. 7.23.B).

We may propose that the spearhead was put to another use at some point in its use-life. In fact, Davis (2006: 79) argued that, after extensively reworking, the original shape of
spearheads was so altered that they may have been effectively used as daggers or tools (i.e. Unprovenanced Ireland, 43: 467-9). Accordingly, it may be possible that the creation of a ‘serrated blade’ could enable its use as a knife–like tool, thus drawing the blade forward and backward. However, judging from the left edge, the spearhead does not seem repeatedly resharpened or affected by such work. The indentations on the right edge may also represent an attempt to make the spear more deadly. While we cannot ascertain when the socket broke off, as has been argued above, it seems likely that the tip was still in place when these indentations were done. Unfortunately, I could not find any parallel examples for this method of treatment, in Italy or elsewhere. As a matter of fact, the flamed shape of the blade would not seem to be very effective in a sawing motion, whilst both the devices may have helped it become a more lethal weapon when engaging with a potential opponent or prey, penetrating and lacerating tissues and flesh. If it had been so used, we might expect smoothed and worn teeth, but this is not the case, as they are still sharp.

FIG. 7.23. Evidence of tool marks on a spearhead found in the terramara of Serviola di San Polo d’Enza (Reggio Emilia – Emilia Romagna: Appendix 2: 17/2). (Photographs by author).

On the other hand, it may be possible to envisage an alternative hypothesis: the damage was intentionally inflicted with the intent to maim the object, through regular percussive blows (equivalent to ‘recidivism’ on a human victim).

Another interesting case is represented by the spearhead found at Fondo Paviani (Appendix 2: 31/1, Fig. A. 231-232). A black layer covers the spear and it is evident in the upper portion of the blade. The X-ray revealed that it may be organic substance or resin (Salzani personal communication). The black layer may represent a residue of the products
of decay of organic material, perhaps belonging to a spear case (?) or wrapping. It may also be possible that the spear was covered by resin in order to make it sticky (i.e. especially in contact with animal furs) or that this medium was used to contain a poisonous or flammable substance. We might interpret this as the evidence of antiquated or inappropriate conservation treatments but the spear was found in the last few decades, in any case, it appears to have been selectively cleaned on its lower portion to remove some of this resin.

7.8.3. HOARDS AND MULTIPLE/SINGLE DEPOSITIONS

The visual examination of spearheads found in hoards amount to 130 specimens, while only 6 are specimens which represent multiple/single depositions. All the contexts analyzed except for Pertosa cave (Appendix 2: 46/1-2) are located in northern Italy. Information about the condition of ten further spearheads has come from photographs and detailed descriptions (three spearheads from rivers – Padua – Veneto: Cupitò 2000: 101-103, n. 114-116; one spearhead from Brenta river and another one from Bacchiglione river – Padua – Veneto: Leonardi and Zaghetto 1993: 138, Fig. 14, Zaghetto 1999: 41, Fig. 4/1; four spearheads from Malpensa hoards – Varese – Lombardy: De Marinis 1979, Tav. LXXXI; one fragment from Aprilia Rimessone hoard – Latina - Latium: Delpino and Fugazzola Delpino 1979: 434, Fig. 5.6).

MANUFACTURE: in the case of hoards and multiple/single depositions, the evidence of finishing work as well as use is heavily compromised by fragmentation, exposure to fire and deliberate damage, which very often obscures the original surface of the object and the traces they bear. Overall, the great majority of the spearheads documented in hoards are well executed, although in some occasions they show core misalignment, which is visible in cross section. Surface pitting has been documented in some instances. I have detailed above the causes of large voids (7.8.2). Interestingly, such voids are only documented on specimens from settlement sites, which can be mainly attributed to the Middle Bronze Age (Appendix 2: 13/1, 16/1, 23/2, 24/5, 25/1, 28/1). This evidence has been never documented in spears from hoards and multiple/single depositions. The absence of large voids on heavily resharpened spears attributed to later periods of the Bronze Age may perhaps indicate improvements of the bronze technology over time. It may be worth noting that the spearheads from the major contexts attributed to the Middle Bronze Age (Cascina Ranza
and Oggiono-Ello, Appendix 2: 1/1-31, 3/1-3) do not show evidence of heavy reworking, probably indicating that their use-span was not too extended.

Evidence related to finishing work has been documented in almost all the specimens examined, apart from those heavily damaged by corrosion. Interestingly, the recurrence of sharpened edges associated with almost pristine or damaged spearheads is more consistent in the Middle-Recent Bronze Age specimens, yet these examples do not often show evidence of extensive reworking (i.e. Appendix 2: 1/1, 6, 18; 3/1; 30/1, 3, 6, 16, 21). In contrast, the later specimens from the Final Bronze Age show extensive maintenance work. Different kinds of decorations have been documented on a conspicuous number of specimens: Middle Bronze Age (i.e. Cascina Ranza hoard: Appendix. 2: 1, Fig. A. 5, 9, 11, 12, 17, 24); Final Bronze Age (i.e. Piediluco: Appendix 2: 38; Fig. A. 261, 275, 287, 289, 319.1B; Contigliano: Appendix 2: 39; Fig. A. 327, 330, 334; Goluzzo: Appendix 2: 40; Fig. A. 336, 339, 341, 348).

**USE-LIFE AND MAINTENANCE:** as I have already mentioned above, the evidence of concussive marks could not be always judged with confidence, as (apart from the destructive activity of corrosion) most of the spearheads bear traces of purposeful damage. However, a number of more specific points may be made. A conspicuous number of spearheads in the sample show evidence of use (i.e. notches, nicks, bows and distortion; Appendix 2: 3/1, 38/16, 31: Fig. A. 55, 292, 310.1D). In other occasions, I dealt with isolated evidence of minor damage that, besides use, may have also been related to post-depositional processes or accidental causes etc. (i.e. Appendix: 2: 30/20: Fig. A. 208).

Considering both certain and probable damage on spearhead blades, the evidence can be divided as follows:

- **Chips:** Appendix 2: 1/9, 12; 3/1, 3; 35/3; 38/34?, 36?; 40/1 (Fig. A. 13, 16, 54, 61, 253, 316, 341-2);
- **Notches and nicks:** Appendix 2: 1/? , 6, 19; 3/1-3; 30/15, 20?; 38/16, 28, 31, 37; 39/11; 40/1, 8; 41/2; 46/2 (Fig. A. 1, 27, 55, 62A, 197, 207, 293, 306, 310.1D, 317, 333, 337, 350, 358; 372);
- **Bows:** Appendix 2: 1/14, 19; 3/2; 30 6?, 12?, 16?, 20?, 21?; 46/1; 38/15, 29; 39/12; 40/7? 9, 43/1, 3 (Fig. A. 19, 27, 58, 179, 192, 199, 208, 211, 370, 288-289, 307, 335, 338, 352, 361, 364);
- **Scores:** Appendix 2: 3/1?; 30/3?, 15?, 16-18?, 19? , 20? (Fig. A.171, 197, 198, 203, 205, 209). Whether this evidence relates to use or deliberate damage is not easy to determine.
The specimens mentioned above represent 23% of the spearheads from hoards subjected to visual examination. Similar to the spears from settlements, notches and nicks are more likely to occur at the angles and in the central portion of the blade. In four cases, similar damage is also documented in the tip area. Bows occur prevalently in the lower portion of the blade (Fig. 7.24). Scores marks are predominantly documented on the midrib (Appendix 2: 3/1; 30/15, 18, 20: Fig. A. 56, 197, 203, 209) and in a few instances on the tip (Appendix 2: 30/16, 19: Fig. A. 198, 205). In one occasion a score mark is also documented on the socket (Appendix 2: 30/3: Fig. A. 171).

In few occasions spearheads shows distortions, which may have resulted from the stress incurred through use. The tips of two specimens contained in the Cascina Ranza hoard (Appendix 2: 1/14, 19) are bent: in one case (1/14) it is likely that it has been straightened after the damage occurred (Fig. 7.25.1A-B), while in the other instance (1/19), the tip appears bent and blunt (Fig. A.27). The evidence seems to suggest that the spearhead, having been forced or striking against hard material, suffered damage in the tip area. In contrast a spearhead from the Pila del Brancòn hoard (Appendix 2: 30/15) shows lateral distortion of the blade. It is likely that the impact also left a score mark (Fig. A.197). Bridgeford (2000) has demonstrated by experiment that a similar mark may be the result of the defensive use of the weapon in parrying a blow. Broken blades and tips provide a moderate figure, but the extent to which the breakage may have occurred during use cannot be always judged with confidence. The recurrence of tool marks on broken pieces cannot be always considered a criterion in distinguishing between use-related damage and intentional fragmentation. Blows delivered with the intent to break an object may have been inflicted beyond the extent of the surviving piece, making any interpretation of original use doubtful. Although blades undoubtedly did break through use, there is no way in which the cause of damage can be securely attributed to use only. Taking into account these considerations, the majority of the spearheads with broken blades and tips occur mainly in the Cascina Ranza (Appendix 2: 1) and Pila del Brancòn (Appendix 2: 30) hoards. These two hoards from north Italy contain a mix of complete and broken objects. In the former hoard, the break points of the spearheads are in most cases unmarked, making any supposition of use probable, but not secure. In the latter hoard, the intentional breakage inflicted through tools is clearer (i.e. Appendix 2: 30/23: Fig. A. 218). The Final Bronze Age hoards located in central Italy are mainly made up by fragments, which in most of the cases show evidence of tool marks.
Further evidence is represented by blunt tips. The extreme tip is a vulnerable part of a spearhead. Although accidental breakage cannot be discounted, the combination of blunt tip with use-related marks on the same specimen may be a reliable proof of use (1/19: Fig.
27; 38/16: Fig. 7.25.2). Similar to the spearheads from settlement, tips appear only rarely subjected to damage.

Turning attention to the damage on the socket, I considered the following types of evidence:

- Minor damage: Appendix 2: 1/3, 8, 23, 24, 27 (Fig. A. 5, 12, 33, 34, 40); 3/2; 41/1, 2 (Fig. A. 357, 358);
- Flattened socket: Appendix 2: 1/5, 23 (Fig. A. 8, 33);
- Cracked socket: Appendix 2: 1/5, 8 (Fig. A. 12), 28 (Fig. A. 43); 29/1 (Fig. A. 164); 38/29 (Fig. A. 307.1D); 39/12;
- Substantial damage around the mouth of the socket: Appendix 2: 1/9, 13, 14, 22, 28; 29/1 (Fig. A. 13, 17, 18, 31, 43, 164)
- Broken socket: Appendix 2: 1/19 (Fig. A. 27), 20, 29 (Fig. A. 44), 31; 35/3 (Fig. A. 253);
- Strained rivet: Appendix 2: 1/25 (Fig. A.37); 38/29 (Fig. A. 307.1D); 40/4 (Fig. A. 343); 43/1, 2, not illustrated;

Evidence of resharpening and reworking is largely attested on spearheads found in Final Bronze Age hoards, while a poor figure is provided for the earlier periods of the Bronze Age. The longevity of some specimens in the sample is clearly documented by resharpened edges:

- Middle and Recent Bronze Age: Appendix 2: 1/13, 20; 3/3 (Fig. A. 17, 28); From river-provenance unknown – Padua: 18; 30/19 (Fig. A. 205);
- Final Bronze Age: Appendix 2: 38/2-5, 9, 15, 16, 19-21, 23-29, 34-39 (Fig. A. 265, 268, 271, 275, 281, 289, 292, 301, 302, 303.2A-B-307, 313, 314, 317-319.1A.C); 39/1, 3, 4, 7 (Fig. A. 321, 323, 324, 328); 40/2, 3, 7, 10 (Fig. A.340, 342, 349, 355); 43/1-4 (Fig. A. 361, 363, 365); 41/1 (Fig. A. 357)

A conspicuous number of spearheads also show evidence of repairs and reworking, which may be localized:

- on the socket: (1) part of the socket was cut away in order to probably repair old damage (Appendix 2: 1/9, 24, Fig A. 13, 34); (2) the metal stretched inward at the mouth of the socket may represent an attempt to secure the wooden shaft to it, through hammering (Appendix 2: 1/1: Fig 7.26.1; 1/18; 38/29; 39/9: Fig. A. 307, 331); (3) rivet holes extensively reworked (Appendix 2: 38/29: Fig. A. 307.1D); (4) rivet holes added some time after manufacture, especially on Final Bronze Age large spearheads (Appendix 2: 38/16: Fig. A. 294).
• on the tip: (4) in some instances, spearheads with rounded tips may indicate that the area of the tip was extensively reworked (Appendix 2: 3/3; 30/19: Fig. 62A, 205; 38/21, 28; 43/2-3, 41/1; 42/1: Fig. A. 357, 358, 359B, 363, 364).

• on the edges: (5) in some instances the surface of Final Bronze Age specimens shows grinding marks which are likely to result from maintenance work (Appendix 2: 38/1-3, 5, 7, 16; 43/1-3; 41/1, 2); (6) in some instances, the cutting edges show smaller or larger voids, which may have resulted from attempts to smooth down old damage. Part of the edge at the base of a spearhead found in the Pertosa Cave (Appendix 2: 46/1) seems to have been removed, as traces of the original extent of the edge may indicate. I have interpreted this evidence as an attempt to repair old damage (Fig. 7.26.2 A-B), though other interpretations cannot be ruled out; other specimens showing maintenance work can be attributed to the Final Bronze Age (Appendix 2: 38/4, 18, 29; 39/4; 40/10; 43/1: Fig. A.270, 299, 307.1 A-B, 361, 362, 355, 356; 43/2, 4, with possible evidence of tracing: Fig. A. 363, 365, cf. also above 7.4, Fig. 7.5). In the case of the spearheads 38/4, at least three holes have been pierced into the upper blade edge of a large spearhead. A small peg (?) is still in place and it has both the ends hammered (Fig. 7.26.3). The holes may have been added at some point during the life-cycle of the spearhead to repair damage;

• on the midrib: (7) reworking that changes the shape originally included in the mould: Final Bronze Age (Appendix 2: 39/3: Fig. A. 323).

END OF THE USE-LIFE: tool marks represent one of the tangible forms of evidence relating to an intention to end the object’s use-life. However, hammer indents may reflect the intention to break the spearhead for practical reasons. A conspicuous number of spearheads in hoards show either tool marks or bends at the breaks, which can be reasonably related to methods used to break the objects. In the case of tips, the possibility that spearheads snapped during their use-life, leaving a slight distortion at the break point, cannot be ruled out; nevertheless, in other instances, substantial bends associated with marks on the backside may also indicate that the breakage of the piece was obtained by putting the object on a hard support and pulling or hammering the overhanging end until it broke (i.e. Appendix 2: 38/19: Fig. A. 301; 39/2: Fig. A. 322). The evidence is more consistent in the Final Bronze Age hoards in which the recurrence of fragments is far higher than in the earlier periods.
Other kinds of tool marks have been documented on either complete spearheads or broken pieces and the violence with which the blows were delivered leaves no doubt that the intention behind them was the purposeful maiming of the object. Substantial blows inflicted on the spearhead can leave indentations on its surface (Fig. 7.27.1); in some occasions, severe and repeated blows may have flattened, crushed and cracked the spearhead (Fig. 7.27.2-3); in other instances the metal is stretched inward under heavy impacts, forming bows (especially on the edges) (Fig. 7.27.4). Accordingly tool marks may by localized:

- on the blade and/or midrib: on specimens attributed to the Middle-Recent Bronze Age (Appendix 2: 1/31; 4/1; 30/2, 3, 7, 10, 12, 13, 17, 18, 21-26; 29/1: Fig. A. 46, 64, 165, 170, 171, 182, 187, 188, 192, 194, 202, 204, 219, 221, 222, 226); on Final Bronze Age spearheads (Appendix 2: 38/3, 13, 23, 34; 39/7; 40/1: Fig. A. 269, 284, 303.2A, 313, 328, 338);

- on the socket: Middle-Recent Bronze Age spearheads (Appendix 2: 1/5?, 28?, 30; 4/1; 30/1-3, 5, 8-9, 19, 22, 24, 25, 28; Fig. A. 8, 43, 45, 65, 168, 169, 172, 175, 184-185, 206, 216, 221, 223, 230); on Final Bronze Age spearheads (Appendix 2: 38/6, 8, 10, 18, 34; 39/3, 7; 40/1, 4: Fig. A. 276, 279, 281, 300, 313.1A, 323, 329, 337, 344).

Further evidence is represented by:

- severe distortions: two Middle-Recent Bronze Age specimens shows lateral distortion (Appendix 2:1/30; 30/22: Fig. A. 45, 213);
- bending: Middle-Recent Bronze Age spearheads (Appendix 2: 4/1, 30/2, 7: Fig. A.64, 170, 182; 30/3: Fig. 7.28.1);
- folding edges or the wall of the socket (Fig. 7.28.2-6): Recent Bronze Age spearheads (Appendix 2: 30/3, 5, 7, 8-9, 22: Fig. A.172, 176, 182, 185, 213; 30/14); Final Bronze Age specimens (Appendix 2: 38/13, 17; 39/7);
jagged rips (Fig. 7.28.4): Recent Bronze Age spearheads (Appendix 2: 30/1, 2, 5, 8-9, 13, 17, 18, 21, 26: Fig. A.167, 170, 176, 185, 194, 202, 204, 212, 226).

FIG. 7.28.1. Deliberate damage inflicted on spearheads from hoards: 1. Bending (30/3); 2-4. Folding the blade edges (38/17, 30/14, 38/13); 5. Folding the wall of the socket (39/7). (1-4: Photographs by author; 5 photograph by B. Toune).

The evidence mentioned so far raised the possibility of an allied form of purposeful damage, namely exposure to heat. It is traditionally acknowledged that the metal assemblage contained in the hoard found at Pila del Brancôn (Appendix 2: 30) withstood fire (Salzani 1994a, 1996; Jankovits 1998/1999). Many of the bronze objects had been exposed to a high temperature while some others are melted together (Appendix 2: 30/8-9, 24: Fig. A. 184-185, 220-221). On the basis of visual examination, I deduce that some spearheads were fragmented prior to exposure to fire for ritual purposes (i.e. Appendix 2: 30/4, 8-9, 13, 14, 22, 24, 25, 27, 28: Fig. A. 173, 184-185, 194, 195, 215, 220, 222, 227,
230). In these instances, tool marks and tears are usually localized at the breaks, which appear deformed by the high temperatures; if this fragmentation had happened after the fire, we would expect to see fresh and undamaged metal across the clean breaks but this is not the case. In other cases however, fire may have been used to facilitate the forms of damage such as folding without cracking.

Moreover, deformations visible on the surface of some spearheads are not only the result of the exposure to fire; hammer blows, as I have already mentioned above, seem to have been delivered, probably on the heated metal, with the precise intent to maim the objects (i.e. Appendix 2: 30/13, 17, 18, 22, 24, 28: Fig. A.194, 202, 204, 214, 221, 230). If my evaluations are correct, we may envisage an initial fragmentation followed by the selection of specific pieces to be included in the deposit, as the constant absence of conjoining pieces might indicate. (It is possible but unlikely this lack of conjoining pieces is the result of selective recovery). Analogous practices seem to be carried out in graves (see above 7.8.1).

FIG. 7.29. 1-2. Mineralised or carbonised wooden shaft found in the socket of spearheads from the Cascina Ranza hoard (Appendix 2: 1/6, 1/29). (Photographs by author).

Apart from the evidence from Pila del Brancòn, there are other cases in which the exposure to fire seems possible, but further metallographic analysis is necessary. The spearhead found in the Soncino hoard (Appendix 2: 4/1: Fig. A. 64-66), shows severe distortion and tool indentations, which are consistent with purposeful damage. Moreover, I believe that the piece was exposed to heat, as the surface shows evidence for a transformed metal texture and small globules of fused metal are stuck on it. Accordingly, it is also possible that the longitudinal indentation on the socket was made in the metal as it was softened by heat.
Evidence on the spearheads found in the Cascina Ranza hoard (Appendix 2: 1) is less clear. Castelfranco (1887-1888) mentioned the possibility that some of the objects in the hoard were exposed to fire. The fact that the shrunken original wooden shaft was found in some of them may strengthen this consideration (Appendix 2: 1/6, 12, 16, 25, 29) (Fig. 7.29).

I suspect that at least in two more cases there seems to be evidence of exposure to fire, though these identifications are made with caution (the socket of the specimen 1/5 and 1/14: Fig. A. 8, 19).

Meanwhile, some of the bronze artifacts found in the hoard n. 4 at Frattesina (Appendix 2: 35/1-3), within the domestic space of the Frattesina settlement, must have been subjected to a high temperature, as the evidence of objects fused together may indicate. Among them, one of the spearheads is wedged into a socketed shovel (Fig. 7.30.3), a piece

of shovel is stuck on the surface of a complete shovel (Fig. 7.30.2) and lumps of molten metal are found in the socket of another shovel (Fig. 7.30.1). In the specific case of the spearhead, it may be possible that it lodged in the shovel accidentally and that the overall transformation by fire may be the result of a catastrophic event rather than a ritualized use of fire. This would distinguish Frattesina from other examples where fire appears to have been used to inflict deliberate damage. Yet the objects vary in their fire damage so it is unlikely they come from a single contact destroyed by fire: Frattesina may yet be proved to fit the larger pattern of fire use to incur deliberate damage.

While in the cases mentioned so far hoards are predominantly attributed to the earlier phases of the Bronze Age, the Final Bronze Age assemblages show further interesting evidence. I have already shown that in some occasions the violence inflicted on the objects goes beyond practical logic to place broken pieces in melting pot: indeed the folding edges or the wall of the socket, closing openings etc. would inhibit their swift melting-down! If we assume that the object was folded or pulled through cold-working, we may expect to see tears and cracks on the backside at a point where the metal bends. It is acknowledged that in some occasions, the smith may have heated only some portions of the object in order to make them less brittle and easier to work. This has been proven especially for swords (Bridgeford 2000), but also for spearheads. However, in some other occasions, these processes do not seem to be related to use; therefore it is likely that the treatment was deliberate and beyond functional purposes.

In two Final Bronze Age hoards in central Italy, further evidence is provided which challenges any distinction between “functional” and “ritual” hoards. Three examples are discussed here: two from Piediluco hoard (Appendix 2: 38/13, 17) and one from Goluzzo (Appendix 2: 40/2). In one of the spearheads from Piediluco, a piece of metal has been folded and wedged into the upper end, while a small stone has been jammed into the hollow channel and the wall of the lower break hammered inward (Fig. 7.31. 2-3). In the other case, small fragments of metal – perhaps parts of the blade wing - have been wedged into the upper break (Fig. 7.31. 4). A bronze bar with a sharp edge – perhaps a tool - has been bent and wedged into the upper break of a fragment of spearhead found in the Goluzzo hoard (Fig. 7.31.1). On the one hand, this practice may have served to make the object’s previous use-life irretrievable, practically and symbolically closing their shaft-ends. On the other hand, as in the case of Goluzzo (Appendix 2: 40/2), the practice may be also read in terms of enchaining different objects in a particular way (i.e. a spearhead with a tool and a spearhead with a particular stone).
All the cases mentioned so far show evidence of purposeful damage which is clearly recognizable on the surface of the spearheads. However, in other occasions, the evidence is more subtle. In order to detect it, we need to know more about which kinds of damage may have been deliberate and which may have resulted from general use (cf. Davis 2006: 76). Accordingly, I have included under the heading of “Purposeful Damage” the alteration of the blade edges, such as longitudinal cut on the cutting edges, or breaks across the blade and midrib at the right angle to the blade edges. The spearheads, which bear such traces are the following:

- Middle-Recent Bronze Age: Appendix 2: 1/2, 4, 5-11?, 18?, 21?, 25-26, 27-28?; 30/1-2, 4-5, 7-11, 13-14, 18, 22, 23, 24, 25 (Fig. A. 4, 6-7, 9, 11, 13-15, 26, 30, 36A, 39-41, 1/8 no picture; 167, 169, 173, 175, 181, 185-186, 189, 193, 195, 203, 213, 218, 220, 222);
- Final Bronze Age: Appendix 2: 35/1-2; 38/4?, 12-13, 17; 39/3?, 5; 40/7 (Fig. A. 248, 250; 271?, 283-284, 295; 323A-326; 348).

In all the aforementioned instances, I have documented cuts and damage parallel or at the right angles to the blade edges.

A number of spearheads from different regions and periods show this evidence, though not always without problems (i.e. the hoards found at Cascina Ranza, Milan: Appendix 2: 1; Frattesina hoard: Appendix 2: 35/1-2). However, some geographical and chronological differences need to be highlighted.

Some Middle and Late Bronze Age spearheads from hoards in northern Italy (Appendix 2: 1, 30) show mainly longitudinal damage on the blade edges. The evidence is particularly consistent in the Pila del Brancòn hoard (Appendix 2: 30), in which the great majority of the objects appear maimed as the result of deliberate blows. The Final Bronze Age hoards in central Italy are slightly different (Appendix 2: Piediluco: 30; Contigliano: 39; Goluzzo: 40) as in the case of the settlement of Frattesina, north-eastern Italy (Appendix 2: 35) (Fig. 7.32.1) discussed above. Excluding the two fragments from Frattesina fragments, in all the remaining cases small regular parts of the blade seems to have deliberately been cut at the right angle to the blade edges (Fig. 7.32.2-4); this kind of excising damage seems too regular to have resulted from use and it would serve no practical function.

Turning now to the decommissioning of such weapons, the removal of the wooden shaft prior to deposition may cause minor or substantial damage around the mouth of the socket, even its breakage. The evidence for such removal is often ambiguous, but in some instances remnants of part of the wooden shaft have been identified in the socket, suggesting they were either snapped off below the blade or left in situ: the main shaft
having subsequently decayed (Appendix 2: 1/6, 12,16,25, 29; 3/3; 46/2: Fig. A. 16, 22, 373). Deliberate breakage of the shaft is clearly linked to the defunctionalization of the spearheads but it may also have been motivated by the need to fit the spearhead into a container or - in the case of spearheads from river- to avoid them floating on the surface or providing a means of others recovering the deposited weapon (Bradley 1990: 24).

FIG. 7.32. Removal of small portions of the blade. 1 Frattesina hoard 4 (Appendix 2: 35/2); 2-3 Contigliano hoard (Appendix 2: 39/3, 5); 4. Goluzzo hoard (Appendix 2: 40/7). (1, 4: Photographs by author; 2-3: Photographs by Dr. B. Toune).
7.9. RESULTS: EDGE-WEAR OBSERVATION AND THE MEANING OF OBJECTS

As I have already shown above, the great majority of the spearheads buried with the cremated bones of the deceased are usually broken, and sometimes the breakage may also have occurred before putting part of it on the pyre. In some occasions, all the pieces which constitute the spearhead have been included in the grave, while in other instances, only a few fragments are interred. In the latter instance, this appears intentional, rather than the result of either ancient or more modern tomb-robbing (Giarretti and Rubat Borel 2006; Salzani 2005 b) and might mean that mourners took other fragments away with them, as highly charged ‘relics’. However, also the deposition of all the pieces of the spearheads in the grave seems to be charged with high symbolic meaning. Presumably, such a practice would have made the artifact unusable yet technically retrievable as a pure quantity of metal which could be recycled (see Needham 2001). Thus, the primary intention to be accomplished was probably the end of the object’s life-cycle through its physical transformation, which effectively untied it from its life-history. This may have been a necessary step before some fragments were made into new objects.

Objects are so closely intertwined and imbued with individuals’ biographies that they may become the extension of the human body. In this sense, the whole process of destruction of objects seems to metaphorically mimic that transformation to which human bodies where subjected during cremation rituals (cf. Nebelsick 2000). It seems likely that the main concern when destroying a spearhead was, in the first place, the separation of those elements which made the object effective and usable: for example, detaching the wooden shaft from the bronze head, the socket from the blade. The socket appears to be of prime symbolic (as well as practical) importance as it allowed the shaft to be lodged in the head: it was the junction, the joining point of different elements and materials. Brück (2004: 320) suggested that funerals and in particular the grave were the arenas where contrasts could be created and commented on by mourners, through the deposition of complete and incomplete, new and old, usable and unusable objects. Such performances would have been vital social devices used in order to (re)-forge relationships and ties within and outside the community. Taking Brück’s considerations further, there may have been another contrast which would have met the eyes of the mourners. The penetrative act of hafting a spear, and its corollary of withdrawal, may have led to other symbolic connotations. The separation of the socket from the blade and the shaft may have also been imbued with sexual symbolism (cf. above 5.5.2), according to which the female element
was separated from the male elements. Thus, the gendered practice so conceived would have re-conceptualized the relationship between men and women, life and death at funerals, through the ultimate breakage of those elements of fertility, which above all else give life.

As far as wear is concerned, the spearheads found in graves seem to have been subjected to purposeful damage (i.e. exposure to fire, breakage and other deformation and distortions), hampering the interpretation of potential evidence of use, apart from a few cases (i.e. Cava Molteni: Appendix 2: 6/3, Fig. 7.17). Yet I have been able to show that the complete specimens which do not seem to show evidence of purposeful damage, bear marks which may be use-related (Appendix 2: 7/1 8/1, 9/1).

However, among the complete specimens, some spearheads appear unworn or slightly used (Fig. 7.18-19). The information available for the three cases in point, Morano sul Po, Bissone Pavese and Via Gorio (168, 127, 191), does not derive from direct visual examination however, but relies on photographic evidence. Information about the position of the spearheads within the grave are only available in the case of the spearhead from Tomb 22 at Morano sul Po, that was pierced into the ground of the pit (see above 5.3). The author (Venturino Gambari 2006: 26) interpreted the evidence as an inverted spear, used as a possible marker for a special tomb. I have already shown as similar evidence is also found in settlements (see above 5.5.1), representing a sort of symbolic “killing” (Nowaroski 2001). Spearheads pierced into the ground are also documented in Iron Age cemeteries in Yorkshire (Stead 1991), and in the cemetery of Torre Galli (Tomb. 30, Pacciarelli 1999: 73). They may represent the ultimate abandonment and separation from the terrene world of the living.

All the spearheads from settlement sites have been divided according to their degree of wear: undamaged/lightly used, use, use and maintenance works, only maintenance and undeterminable. This subdivision appears important as it reasonably relates to the longevity of the use-span of spearheads at the close to their life-cycle. Hypothetically, a normal life-cycle would consist in forging spearheads to serve specific functions; they may have used in combat, hunting or practice sessions and then repaired several times before being discarded as an unusable piece awaiting recycling. However, in some occasions different variables may have interfered, diverting the object from its normal cycle. The particular momentum which bridges its passage into the archaeological record does not necessarily coincide with the end of its use-life, for it is evident that this can occur at any
stage (Table 7.9). One of the variables, which I shall consider here, is deliberate deposition.

On the one hand, in the case of tombs and votive depositions, the reasons for the permanent and intentional disposal of objects, for examples in a grave or in a river, may appear straightforward: either as gifts to the dead or as offerings to a spiritual world. Yet the motivations behind hoarding behaviour are more debated. In this thesis, in line with other authors, I would argue that the majority of hoards as well as single objects given up in the landscape appear to have been deposited intentionally in special locales and were not intended for later retrieval (Fontijn 2003). There is still a possibility however, as Needham (2001) argues, that some other hoards may have been interred as a temporary safe-keeping and were ultimately left in the ground, owing to a loss of memory, for instance.

![Diagram of spearhead use-life]

TABLE 7.9. Schematic reconstruction of a potential spearhead use-life.

In the case of settlements the possibility of deliberate depositions within domestic space is more controversial. Generally, there is more caution in interpreting objects in the living space in terms of deliberate depositions, probably because the settlement is par excellence the place where domestic and practical activities of the daily life are carried out. Yet I have identified some convincing examples of more ritualized depositional practice within this sphere as well.

Turning attention to the spearheads examined here, I will now discuss the evidence of their degree of use before they entered the archaeological record. In doing so, I have used
the subdivisions outlined in Table 7.9. Subsequently, the degree of use within each category has been assessed on the basis of two major variables: “still functional” and “unusable”. A still functional spearhead is a weapon that basically can perform the tasks it has been intended to.

Contrarily, a spearhead becomes unusable when it looses all those properties, which make it ineffective for use, for example a broken spearhead. A chart has been plotted (Table 7.10), contrasting the four main categories of wear (undamaged, only use, use and maintenance, only maintenance) against the two variables, in order to evaluate whether they were still effective weapons before they entered the archaeological record.

![Chart showing the degree of wear of the spearheads found in settlements before they entered the archaeological record.](image)

**TABLE 7.10.** Chart showing the degree of wear of the spearheads found in settlements before they entered the archaeological record.

It appears evident that the great majority of the spearheads found in settlements (ca. 16) entered the archaeological record in a pristine condition or with minor damage, which may even have resulted from post-depositional processes (Appendix 2: 2/1, 24/1-3, 5, 26/1-2,
37/1, 15/1-2, 17/1, 27/1, 28/1, 34/1, and Coppa Nevigata: 137). The specimens which show the only evidence of use-related marks number 10. As I have discussed above, the “Only use” category must be taken as the evidence of concussive marks on spearheads which have been tolerated, either before and after use. However, among them it is possible to make a distinction. The effectiveness of 6 specimens is compromised by the fact that the large portions of the tip or the socket are broken. The remaining 4 cases show concussion marks, which could have been smoothed down through resharpening and reworking, yet this was clearly not done. While in the former instances the specimens have probably not survived first impacts (Appendix 2: 10/1, 18/1, 22/1, 23/1, 24/4, 34/3), in the latter cases they were definitely still usable before entering the archaeological record (Appendix 2: 11/1, 12/2, 16/1 and 20/1?). Overall, the fact that the pieces do not show evidence of repairing after or before use may indicate that their use-span may have been little, and that for some reason their damage was tolerated during their short life-history. Perhaps their significance derived from the events they had been involved in, and they were deposited soon after.

Six specimens in the sample bear both the traces of stress incurred through use and evidence for reworking (Appendix 2: 2/2, 12/1, 13/1, 25/1, 31/1, 18/2). Obviously, when use and maintenance occur together, it is not always possible to assess the sequence of the events, unless the two types of evidence are related (i.e. a cut on a resharpened edge). The spearhead may have been used and repaired and subsequently reused and reworked many times, perhaps also creating flaws which resulted in eventual failure. Also in this instance, 2 out of 3 spearheads are broken and 1 appears worn and altered. Contrarily, 3 specimens seem to have been lightly used after being extensively reworked and resharpened, indicating that at least some of them entered the archaeological record in a form still consistent with use. Importantly, in the case of spearheads which show evidence of some sort of reworking, but not use, we cannot establish how many times the object was repaired after use. However, what emerges from the graph is that the majority of these specimens were again still usable (Appendix 2: 14/1, 17/3, 19/1 and 34/2 showing similar evidence). As for the latter two categories, it could be suggested that the spearhead had been in circulation over a more extended period of time.

Interestingly, the total number of spearheads decreases as their life-span increases (ca. 26 specimens undamaged or used but not-reworked versus 11 spearheads which show maintenance work). Considering that the majority of them have been found in Middle-Recent Bronze Age terramare sites and lake villages, it is possible to suggest that their
life-span and their circulation was short, at least in those phases. At the same time, considering the specimens subjected to reworking, the evidence shows a consistent recurrence of spearheads which entered the archaeological record in a form still consistent with use. It may be worth asking why a such conspicuous number of undamaged or still usable spearheads were left in settlement sites. I have already illustrated my opinion that the spearheads were deliberately deposited within the domestic space (see above 5.1 and 5.5.1). In one instance, I suggested that the indentations on one of the cutting edge of the spearhead from the terramara of Servirola di San Polo d’Enza (Appendix 2: 17/2, see also above 7.8.2) may have been inflicted with the intent to maim the object. This form of damage comes at some point in the object’s life-cycle and not at its end, as the spearhead appears still usable before the indentations on the left edge occurred. Although we lack the necessary stratigraphic information (due to the circumstances of the recovery) it may be possible to envisage a form of ritual behaviour behind this damage and perhaps its intentional discard within the domestic space. A similar interpretation in terms of votive offerings has been used to explain the great amount of bronzes from terramare and pile-dwelling sites (Pearce 2007; Carancini 2004: 289). I believe that, according the edge-wear observations, the high rate of spearheads which entered the archaeological record in a pristine condition or in a still usable form may reflect deliberate acts, probably imbued with ritual behaviour, rather than a casual loss. There is growing evidence of depositional practices in settlement sites, as a way of marking significant points in space (corners, entrances, thresholds etc.) (Brück: 2001: 150; Nowakowski 2001) (see above 5.1 and 5.5.1). Structures, buildings, particular areas within the settlements may have changed during their use-life, in the same way as an individual’s life-cycle. These passages may have been formalized through ritual practices (Bradley 2005: 108-119).

In the course of the Bronze Age the techniques used in the production of spearheads improves, compared with the earlier phases of the Bronze Age (i.e. there is no evidence of voids caused by insufficient molten metal during casting processes, which is often evident on the specimens from Middle-Recent Bronze Age settlements). By and large, the majority of the Final Bronze age spearheads have been subjected to extensive maintenance work, indicating that probably they were kept in circulation longer than the spearheads of the earlier phases. The fact that earlier specimens seem to be less subjected to reworking has been already documented in the case of spearheads from settlement sites, the majority of which mainly belongs to terramare sites and lake villages. Indeed, the great majority of
the Middle-Recent Bronze Age spearheads comes from two exceptional hoard (Cascina Ranza, Appendix 2: 1; Pila del Brancòn, Appendix 2: 30). On the one hand, the fact that the evidence relies on few hoards may bias the general figure; on the other, the lack of maintenance work on the surfaces of the spearheads contained in these two huge hoards may indicate that worn spearheads were rarely included in them, compared with the evidence documented for the Final Bronze Age hoards.

Turning attention to evidence of use, I have been able to demonstrate that concussive marks are more visible on the specimens from settlements and hoards. According to the visual examinations of the surface condition of Middle-Recent Bronze Age spearheads from settlements, concussive marks are more likely to occur in the middle of the blade and to a lesser extent in the tip area, while bowing occurs prevalently at the angle or in the middle of the blade, but never in the tip area. The great majority of these marks may have resulted by metal striking metal. By the Final Bronze Age, concussive marks appear predominantly associated with the lower portion of the blade. The tip, which is one of the most vulnerable part of the spearhead, has only rarely visible traces of concussion marks (i.e.Appendix 2: 18/1). The latter evidence seems to be strengthened by the experimentation carried out by Bridgeford (2000). The author has successfully demonstrated that the degree of damage on tip area highly depends on the material it strikes against, so that impacts with flesh, bones, wood or toughened leather generally leave little traces, apart from slight blunting. Thus, the presence of spearheads with the tip missing or small fragments of tips (Appendix 2: 2/2, 18/1-2, 22/1, 23/2?, 24/4, 34/2-3), may indicate that, at least in some occasions, severe impacts would break the tip off.

According to the results of an experimental programme with sword and spearhead replicas at the Royal Armouries, Davis sheds light on a variety of moves compatible with the use of spearheads. The author found that spearheads were used “to thrust and to cut with a percussive slicing move” (2006: 97). In the same way the damage around the mouth of the socket, which includes cracks, tears and breaks, may have been caused by “lateral movements of the spearhead against the shaft in combat” or through “hafting and reshasing” (ibid. 79). In a similar way, Bridgeford (2000: 146) linked breakage and cracking around the mouth of the socket and the pegholes to the use of spearheads in a stabbing mode, thus as a result of an angled pressure applied to the socket itself. Similar evidence is attested on some of the spearheads here examined (Appendix 2: minor damage: 24/3?, 25/1; cracks: 12/1-2, 23/2, 24/4; substantial damage: 16/1, 31/1; breaking: 10/1, 21/1?, 23/1). Although a few cases can be attributed to the Final Bronze Age
(Appendix 2: 29/1, 41/1, 2, 38/29, 39/12, 35/3), the remaining spearheads are date mainly to the Middle Bronze Age (Appendix 2: 1, 12/1-2, 23/1, 24/4). It may be worth noting that similar damage around the mouth of the socket may have also been caused by the removal of the wooden shaft. However, the intentional removal of the shaft for other reasons may be more understandable in certain contexts (i.e. cemeteries, hoards or votive depositions for instance), than in other ones (i.e. settlements).

Other evidence of concussion marks includes score marks, which in a few instances recur on the midrib (Appendix 2: 12/1, 12/2). Bridgeford (2000) has demonstrated that angled impacts or the use of spearheads in parrying a blow may split in favour of bowing and score marks on the cutting edges and on the midrib. All this information, which has been tested by experiments, reveals that a spearhead used in a thrusting mode is a versatile and effective weapon.

We must consider that the marks mentioned so far also occur in a number of small Middle-Recent Bronze Age spearheads. Interestingly, if it is true that such damage may have resulted from using a spear as a held-weapon, their small size is significant (i.e. Appendix 2: 3/1-3, 10/1, 11/1, 12/2, 13/1, 16/1, 23/1-2) since traditionally, these have interpreted as javelins (Pacciarelli 2006: 246-260). Interestingly, the length average of the majority of the spearheads from settlements is around 10-13 cm and 13-16 cm, thus consistent with the traditional definition of javelins (see also above 7.5). Snodgrass (1964), for example, argued that the association of small and large spearheads in Minoan graves, may support the hypothesis that in a combat-like situations two spearheads were carried by the combatants and that at least the smallest was used as a javelin. However, considering the fact that the association of two spearheads in graves may represent the primary basis from which these assumptions originate, it may be worth noting that in Italy such pairings are evident up to the Early Iron Age. In contrast, drawing on his experimental experience, Davis (2006: 93) notes the effectiveness of the early small spearheads used as hand-held weapons in thrusting mode. As I have already shown above, the visual observation of edge damage seems to contrast, though not always, with the traditional model, making the edge-wear examinations an insightful tool in addressing alternative considerations for the use of spearheads.

Turning attention to deliberate damage, it is worth noting that on the one hand, it occurs in Middle-Recent Bronze Age hoards which are mainly made up of complete objects. On the other hand, particular treatments, which do not seem to be consistent with use, can be also found in Final Bronze Age hoards, which are traditionally interpreted in terms of
“scrap” or “pre-currency” hoards. Spearheads which withstood fire are mainly found in Middle and Recent Bronze Age weapon hoards in wet lands (Appendix 2: 1, 30), but not only (perhaps also Soncinio, Appendix 2: 5). Although the evidence is not so clear in Final Bronze Age hoards which contain spearheads, the visual analysis of the surface of some of the specimens revealed the possible exposition to heat of specific areas of the object, suggesting certain sections may have been previously heated before being bent and folded. If this evaluation is correct, we may suppose that this treatment was deliberate and sometimes beyond functional purposes. As the production of an object is the result of a complex technological syntax, which eventually turns the raw material into a culturally conceived shape, in the same way the end of its life-cycle may have been performed following specific procedures. (It may even have been performed by the same type of person: the smith). A preliminary stage would have been the destruction of the object, namely the mental disaggregation from it. This ideological separation gained reality in the physical breakage of the objects’ component parts, rending them separate components rather than a meaningful weapon. Yet, in some instances, snapping a spearhead blade does not seem to have been enough to achieve this aim, so that other procedures may have been necessary.

The maimed condition of some objects reveals a ritual violence and perhaps a spectacular performance, which may have entailed regularized codes of actions dictated by traditions and rules in order to formalize the new status of objects (Turner 1998; Nebelsick 2000). If this supposition is correct, we may envisage two different uses of fire, both infused with symbolic connotations: one is the metallurgist’s performance, perhaps spectacular and public, geared to separate objects from the previous life-cycle. The second would be the use of fire in other practices, for example funerary rituals or in practices concerning earlier Bronze Age hoards (i.e. Cascina Ranza: Appendix 2: 1), during which the object, through a process analogous to the treatment to that of an individual (perhaps the possessor), underwent a transformation which reintegrated it into a new order (Van Gennep 1960). In the first case, it has been recently proven that the execution of particular technological gestures such as these requires a high degree of knowledge which can be only achieved by a specialized blacksmith (for Iron Age Greece, see Kostoglou 2010: 177; for ethnographic parallels, see Bennet 2009 cited in Kostoglou 2010). The craft production is the result of a series of stages, namely an operational-chain. Each production stage requires a unique degree of know-how, knowledge, body gestures and memory, which can be acquired through a long-lasting apprenticeship. Recently Apel (2008) has pointed out
that, in the case of the craft production of a flint dagger in the Neolithic Scandinavia, the high degree of specialization required in the last stages, would have dismissed any possibility of imitation, even when the performance was practiced in a public place. The same can probably apply to bronze casting and production.

Taking this further, any blacksmiths’ spectacular performance in public places during communal events might have re-formalized their role within the community. Blacksmiths know how to control and balance heat and fire in order to serve particular needs, for example hardening and repairing by heating limited portions of an object to soften the metal (whatever the reasons behind it), but perhaps also creating, at least in some instances, “terrific and suffocating effects” and conferring to objects a particular connotation or status (i.e. awaiting reintegration for instance, Turner 1998) (Fig. 7.31.2-3). Thus it is possible that the practice of fragmentation in some hoards was carried out in a sort of spectacular performance (see also Appendix 2: 38/17, 40/2). This dramatic effect is attested in some fragments of spears contained in the Contigliano/Piediluco II hoard. In one case (Appendix 2: 39/8) (Fig. 7.33.1) a decorated spearhead has been broken, probably after having been heated in order to make the metal softer and workable. The fragment represents the visual manifestation of the plasticity of the bronze alloy - the alteration of a workable metal through the action of fire, rendering it perfectly preserved yet curved and fluid in form: this could only have been achieved by a skilled smith, who was capable of preserving its beauty within this process of radical alteration. In this case, the careful and skillful process of fragmentation appears different from the blunter, destructive process observed in other occasions (Fig. 7.33.2, Appendix 2: 38/10).

In conclusion, blacksmiths possessed expert knowledge about the properties of fire: the element key to permitting the transformation of objects as well as their passage from one stage to another. They forge them from mineral ores by using fire, thus creating completeness from parts. On occasion, they are able to disaggregate the whole, turning them once again in parts. The matching of unique elements is the necessary prerequisite for (re)-birth, although, at least in some occasions, the passage from one stage and another is not straightforward, and it may have required a sort of “liminal” period. This process constantly enchains opposites, for example whole-parts, objects-fragments, to the cyclical flow of existence: birth, life, death, rebirth.
FIG. 7.32. 1. Bent fragment of spearhead from Contigliano/Piediluci II hoard (Appendix 2: 39/8); small fragment of a socket of spearhead from Piediluco I hoard, showing tool marks (Appendix 2: 38/10).

The same enchainment has been already pointed out, and the recurrent contrast between the inclusion of different parts of objects in hoards (7.7.3) is one good example. It may be worth noting that the same concept may apply to human beings (i.e. life is generated and constantly renewed by two parts: male and female) or for crops (seeds create crops and crops in turn are harvested for edible food and new seed grain, which is the vital precondition for life). In this sense, blacksmiths created the premise for re-birth and renewal through the use of fire, which, at least in some instances, was the same process followed by human bodies during funerary rituals.

I have shown that some specimens contained in Final Bronze Age hoards have small stones or pieces of other objects wedged into the hollow channel of the spearhead (Appendix 38/13, 17, 40/2). This practice may also be read in terms of the enchainment of different objects in a particular way (i.e. a spearhead with a tool and a spearhead with a particular stone). However, the small stone jammed into the channel of a fragment of spearhead contained in the Piediluco I hoard (Appendix 2: 38/13) and a piece of thin bronze sheet from the same hoard, which was wrapped around a small flat stone might
express a different, or additional, metaphor. The practice of wrapping in Early Bronze Age funerary rites has been broadly discussed by Brück (2004: 318-319). The author linked this practice with a symbolic protective function: objects can be hidden and kept away from “jealous eyes” (ibid. 319). At the same time, this practice may have had the scope to connect and reconnect different participants, “creating links between objects that expressed, reaffirmed, or altered interpersonal relationship” (ibid. 319).

I believe that the same interpretation may be also extended to the cases documented in these hoards. We can imagine that the objects so wrapped and contained were able to enact or seal a specific memory. They may have had special properties (for example, as a symbolic whetstone or even parent rock from which the ore derived). Thus the role they played may have been regarded as culturally significant for the participants of a specific event. It may be interesting that this evidence has been found in the Piediluco hoard, which I have discussed above (Chapter 6.5), linking its ultimate burial with the abandonment of settlement sites in the area of the Lake. Other examples were found in other hoards: Aprilia Rimessone, Monte Igino, Belvedere di Cetona (Toune 2009).

Further evidence of deliberate damage comes once again from the same Final Bronze Age hoards. Small parts of the spearhead blade (at the right angles to the blade edges) seem to have deliberately been removed (Appendix 2: 39/3?, 5; 40/7). It may be likely that part of the objects were retained in order to serve other purposes: a symbolic token to be reincorporated into a new item, a material relic to be retained by a mourner as an amulet or momento. Once again the practice may impinge on the role of objects in entangling people and people, as well as people and things, to particular circumstances and places and keeping alive these interpersonal relationships across the passage of time (Brück 2006b: 79). In one sense, it matters little whether we classify these as ‘ritual’ or ‘non-ritual’ hoards: this evidence for purposeful damage on some Final Bronze Age hoards in central Italy, raises our awareness that ritualized gestures may have been enacted even on objects intended for recycling. The ritual permeates the practical, even in the most domestic or mundane of activities. Interestingly, the special treatments of objects mentioned so far are particularly noticeable in the Final Bronze Age period.

In conclusion, I have demonstrated that, at least in two Middle and Late Recent Bronze Age hoards (Cascina Ranza and Pila del Brancòn, Appendix 2: 1, 30), deliberate damage appears evident on all the specimens, and that this might be interpreted as a sort of purification rite or sacrifice of the objects to be given to the water. In contrast, in the Final Bronze Age mixed hoards, particular objects may have been selected and charged with
magical properties (i.e. protection of the whole assemblage deposited) and thus subjected to special treatment. They may have been chosen for this rite since they represented tokens of particular events.
Around the end of the third millennium BC, prehistoric communities in large parts of Europe began to use and produce bronze objects and engaged each other in a complex network of trade and exchange. A diverse range of objects circulated kilometres apart in metalliferous as well as in non-metalliferous areas. These bronze artefacts, prized either for their difference (as rarities, exotica) or for their connections (as gifts), or even as commodities, favoured the development of the concept of prestige goods and prestige trade. The circulation, display and the consumption of prestige goods was traditionally viewed as one of the key factors in both the development of a distinctive Bronze Age economy and the social reproduction of complex stateless societies. This was attributed to an increase in the production of prestige goods, creating a surplus which could be manipulated by elites in different social situations. Spearheads and swords, made their first appearance in Italy at the beginning of the Middle Bronze Age (around 1650 BC) and soon after they became widespread over the Italian peninsula. By the end of the Bronze Age they represented the common weapons used by rank and file fighters. The flourishing of a specialized set of offensive weapons (namely swords and spears) along with two-wheel chariots and fortified settlements, was directly linked to increasing competition amongst members of elites over land and resources (Peroni 1996: 16). Accordingly, the recovery of weapons in diverse archaeological contexts was interpreted as the record of prestige objects, owned by members of elites.

This thesis began by reviewing these models, exploring the key historical frameworks used to explain prehistoric metalwork production and consumption, highlighting its economic and social aspects. It identified the key role played by the construction of typologies, in constructing relative chronologies, and critiqued another key use of such material to creative culture historical frameworks. Particular types of bowls or swords, for instance, were used to identify specific geographical “culture groups” or “cultural circles” over time. The introduction to this thesis criticised these approaches for losing sight of both the craftsmanship behind the forging a weapon or shaping of a vase, and depersonalizing individual artefacts, whose biography was subsumed under the broader identity of the ‘culture group’ or ‘circle’. Thus the particular decoration on the socket of a spearhead was traditionally used to identify a specific style with a specific chronology and place of origin;
yet this craftwork was part of how people personalised their weaponry, such that it became an important part of their own personhood… making a spear more lethal or effective, or unique and memorable… helping make them what they were. These aspects too, deserve exploration. I began this thesis with the desire to develop (but not completely abandon!) my previous typo-chronological and classificatory research, broadening my understanding of Bronze Age spearheads in Italy by focusing on a rather different research question: how far can we understand the meaning of objects to prehistoric communities?

Clearly, typo-chronological studies of Bronze Age metalwork have been fundamental in providing a basic framework of understanding for large assemblages, allied to absolute dating programmes. Yet this thesis has argued they are deficient in treating such artefacts merely as a record – not a medium – of social relationships in the past. Such categorisation is inevitably an artificial product of modern Western values, relating to form and function. Yet people in the past were capable of reworking and reconceptualising such objects: thus, a spearhead butt may itself be used as a weapon, a spearhead used like a dagger, or a re-sharpened axe re-used as a chisel. In other words, artefacts may not only be polysemous but their biography may help us identify how they changed in classification over the course of their life. The simple association we might make of ‘spearhead = weapon’ (although undoubtedly true in some respects) may be too simplistic, obscuring nuanced aspects of the use of objects and their symbolic value in the past. In other words, what these modern classifications and categorisations neglect too often is the passage of time: the fact that the final form of the objects as we look at them, might hinder our understanding of previous events. All the stages through which a single object passed contributed to the construction of that object’s biography: each past event was encrypted in the object, infusing it with aspects of its users’ identity, ethnicity and gender… attributes which were manifest in how it was wielded in day-to-day life. Thus, objects conveyed messages, which we need to explore through their materiality: they were entangled with people, as well as with time and space. In this perspective, time is not only a sequence of dates through which we organize historical processes, but it is the internal parameter which manifests its flow through the traces left on the surface of the objects.

Having acknowledged the inadequacy of more traditional approaches, I then outlined a body of different theoretical ideas to draw upon (Chapter 2), before expanding my approach through the integration of traditional and more recent methodological approaches. In this thesis, I have brought together typologically-derived chronological information (Chapter 4), contextual archaeology (Chapter 5-6) and the visual examination of the surface of Bronze
Age spearheads (Chapter 7) to create a more holistic understanding of their meaning and significance. This methodology was derived from the contextual and biographical theory drawn from social studies (Chapter 2), and the interpretation of the results have been framed by this approach. Though initially challenging, this work revealed that the use of complementary methods, and the cross-checking they encourage between different strands of evidence, can help balance out the limitations of individual approaches. In the rest of this chapter I will summarize the major issues I faced in the study, reflecting on its results to identify key issues and concepts relating to the roles of spearheads in the past. I will also review the further potential for this research, as well as some of its limitations.

The typology of the Bronze Age spearheads Italy which I have proposed in this work (Appendix 1.1 and Chapter 4) is presented in a non-traditional form, thus intentionally avoiding rigid grouping and nomenclature. Indeed, I focused on some aspects which I had not considered in my previous work (Bruno 2007). For example I have demonstrated that the distribution of different types of spears over time and space may be not only read in terms of the patterned distribution of cultural traits. In contrast, they may have represented the intention of past groups to personalize their weapons in order to make them either recognisably ‘local’ or more exotic and ‘foreign’. I have shown how more discrete circulations of spearhead designs may have help us explore notions of relatedness and identity. The fact that moulds for spears and exact bronze counterparts are found in neighbouring terramare sites may attest an inter-site circulation of objects as well as the transfer of knowledge, through the exchange of moulds between neighbouring groups (cf. also Fontijn 2002). This may signify that the design of spearheads was likely to follow local trends, which could be used to comment upon group identities. In contrast, wider distributions may have represented an alignment with super-regional connections, especially in the earlier phases of the Bronze Age, when local traditions had yet to fully flourish (Chapter 4.5).

In contrast with the earlier phases of the Bronze Age, by the Recent Bronze Age we see the development of a preference for particular designs, some of which lasted longer than others (i.e. Type SLS 8). This evidence suggests that by the Late Bronze Age, inter-regional designs may have reflected the acquisition of more effective warfare techniques, organised along similar lines, although even within this, there seems to be a need to differentiate spearheads according to local trends or customs (i.e. Type L21 A-D). Spearheads increasingly become a specialized weapon: by this period onwards, improvements seem to
have been made in terms of enhanced exploitation of metal quality, rather than developing novel technological designs. Whilst in the cases mentioned above, spearheads have been considered key in expressing a group’s identity, it is in the case of tombs that it seemed possible to also detect some subtle aspects of spearheads, used to manifest individual biographies. The fact that we can distinguish between those who responded to new influences from outside as well as those who stuck to traditional values, has been demonstrated by two cases.

The spear from the Middle Bronze Age 3-Recent Bronze Age 1 tomb of Bellaguarda (2) may represent the case of a warrior in a foreign army (Greek army), who came back home and was subsequently buried with an Italian spearhead, that followed its possessor in his/her journey in distant places. It perhaps indicates that the memory of the past military mission was commemorated by the mourners through the deposition of the spear in the grave: a tradition that is barely attested in Italy, but well documented in Greece. In contrast, the Albanian “Pazhok” type spear found in Final Bronze Age and Early Iron Age tombs in southern Italy, suggests that this particular spearhead type, visibly non-local, may have (re)configured and formalized the status of specific individuals as “foreigners” (or those distinguished by their foreign contacts) over generations.

A further step in the understanding of the meaning of objects has been the association of spearheads with other metalwork types (Chapter 5). I have explored it through different contexts of find, providing insightful results especially in the case of settlements and hoards. Although the evidence from settlements is not always clear, due to the lack of stratigraphic data (Chapter 3.1), I have demonstrated that, at least in one case, it was possible to reinterpret recent data on a collection of material recovered from the bed of the Lake Viverove (50) (Piedmont) (Rubat Borel 2010) (Chapter 5.1), using the theoretical ideas outlined above. The deposition of spearheads in the peripheral areas of the site, at entrances and boundaries, has been taken as proof of a ritualised behaviour. Accordingly, their presence in particular spaces within the site has been linked to rituals geared to the protection of the whole community as well as to apotropaic, abandonment or foundation rites. Whatever the case, once again the role of spear was evidently key in emphasising group identity, collectivities or more generally, a whole which was collectively shared (i.e. a settlement, or also a house or a particular structure: cf. Chapter 6.5: Coppa Nevigata, where a spear has been found under the wall of a structure). Meanwhile, the uniqueness of the objects distinguishes them from other ones, so that on occasion they may have been selected
to perform particular meanings. In this perspective, spearheads do not only bear particular identities (as in the cases cited above), but they were intentionally chosen to represent particular meanings during specific events.

In the same way, another intriguing case of spears charged with particular significance is that of spears pierced into the ground. This practice has been documented in settlement (i.e. Roca Vecchia-Apulia: Magiulli 2006) as well as in cemeteries (Chapter 5.3). Perhaps it may represent an attempt to free the deceased from the world of the living, performing a symbolic act of ultimate abandonment, spearing it into the ground.

I have also suggested that in hoards, the presence of few complete spearheads, mainly made up by broken pieces and dominated by tools, ornaments or also axes (Chapter 7.7.3), may again relate to the multiple aspects of spears. The recurrent contrast in hoard assemblages and in tombs, between parts and wholes, old and new, has been recently discussed as a way to (re)-contract relationships in a broader sense (cf. Brück 2004: 320). In contrast with weapons hoards and single deposition of weapons in particular locales, the contrasting composition of the former mixed deposits may be a reflection of the involvement of different participants in certain practices, closely intertwined with aspects of gender, age and status. The selection of objects to be included in such mixed hoards as well as in tombs, may tell us about another layer of symbolism alluded to through this mix of artefact types. The association of sickles, axes and objects linked to metallurgical activity (i.e. tools or ingots) may have brought to mind the transformative and regenerative properties of these practices, making them appropriate means of negotiating cremation rituals, at the beginning of the Recent Bronze Age. Equally it was this method of transforming the deceased through fire and fragmentation which began to inform analogous treatments of objects.

If these interpretations are valid, there is a further question that need to be answered...what were the ideological and symbolic dimensions of spearheads? On the one hand, I believe that the inclusion of spearheads in these hoards may indicate that such objects were collected over time and probably derived from different sources (i.e. different participants), who aimed to evoke this sense of communal protection under the symbol of the spear. In the eyes of the participants, this is an act that would have re-formalized a sense of communal effort in the defence of collectivities, as well as their domestic structures and things linked to them. Meanwhile, like the spears pierced into the ground in tombs and settlements, they may have also conveyed a sense of symbolic “killing” of other objects in mixed hoards, or created an intimidating ‘welcome’ which assailed visitors to a settlement. Such a practice may have also been part of more general abandonment of the area, during
which particular rites of separation may have involved the final burial of these assemblages, thus leaving behind past memories and ties, as well as symbols of authority and power (i.e. Piediluco: 179; Carancini et alii 2008, 2009).

Yet, why should spearheads have taken on these nuances of meanings? I believe that it mainly relies upon the twin capabilities of this weapon to both destroy or defend. In my opinion, spears identify above all a collective sense of identity: an attack made with spears needs to be primarily collective in order to be successful. This differs from swords, which are more appropriate for individualised hand-to-hand combat (see also dagger and knives that require a certain proximity between opponents). Either in hunting games or in real raids and fights, the use of spears implies a set of corollary skills (i.e. lying in ambush, waiting for the prey to come closer, disguise, stalking etc.), that individuals acquired in their youth. Furthermore, the spear was wielded and hurled in the air; it had a reach that was greater than the sword, hitting a target from a greater distance yet this may have meant the loss of the implement during attack. Unlike the sword, it could not be as easily ‘worn’ as a dress accoutrement… it had to be held or carried, as a rather different kind of body accessory.

At the same time spears are versatile and very deadly weapons. Because it moved between realms of defence/warfare and hunting, it may have been perceived as a weapon which shifted between the “wild” and “domestic life”, and may at times have been deemed dangerous and polluting. Moreover, the spear may have had a key relationship with youthful individuals as well as with rites of passage (as suggested in rock art, Chapter 5.4); in contrast, swords may have appeared to be the appropriate weapon for the representation of someone’s seniority or status (i.e. the sword-bearers in the cemetery of the Olmo di Nogara: Salzani 2005 c). It is in this sense the spear brought with it an ambiguous symbolism which made it an inappropriate martial object to express the deceased’s identity at death. The combination of all these factors may have determined the exclusion of the spears from mortuary rituals at least up to the advanced phases of the Final Bronze Age. In addition, while the evidence mentioned so far may relate the spear to a more generic concept of martiality, the rationale behind either the presence of spearheads at the boundaries and entrances in settlements or their key role in sealing particular events in the life of humans and things, would also downplay an exclusive male or martial connotation, often imposed upon these objects.
The analysis of the context of deposition of spearheads (Chapter 6) highlighted patterns of selection focused on special and evocative locales in the landscape. I have contrasted their frequency in settlements against other contexts of find, as well as another weapon, namely sword. It was possible to ascertain that in the majority of cases, the contexts of deposition which clearly fall under the traditional archaeological categories of “hoards” and “single/multiple depositions”, were predominantly located outside the area of the settlements. There are a few exceptions: the conspicuous amount of spears from Middle-Recent Bronze Age pile-dwelling villages and terramare sites may indicate more subtle connotations, using the spear to demarcate particular points within the settlement (see above and Chapter 5.5.1). These conclusions have been re-evaluated in light of the evidence for use and wear on their surface, as well as their final treatment (Chapter 7.8-9).

Overall, the thesis identified a contrast in the Middle-Recent Bronze Age, between the deposition of spearheads and swords in tombs: the peak reached by swords in this period is marked by the lowest frequency of spear deposition, whilst in the Final Bronze Age the figure appears inverted. In terms of the number of contexts in which spears have been found, it emerges clearly that the dominance of settlements and single/multiple depositions during the Middle-Recent Bronze Age is at variance with tombs and hoards in the course of the Final Bronze Age. Such evidence may tell us that there may have been a precise intention behind the inclusion of spearheads in different contexts, and that probably the choice was culturally dictated and differently regulated through time.

Meanwhile, there may have also been a link between different assemblages and particular locales in the landscape: Middle Bronze Age weapon hoards containing spears are predominantly located in wet environments - a characteristic that can also be extended to axe-dominated hoards. In contrast, by the Final Bronze Age hoards in general occur predominantly in dry lands. However, I noted that in this period there may have been a close link between the two environments: promontories facing the sea, small islands, flanks of mountains surrounding lakes. Once again, this evidence may tell us that any attempt to categorize such locales may risk falling into environmental determinism, which hampers the recognition of more subtle meanings of place.

Although the frequency of spearheads as single/multiple depositions remains approximately stable across the Bronze Age, a general preference is shown in the giving up spearheads in minor rivers and streams, with rarer examples of deposition in major rivers – such features were more commonly selected for the deposition of swords. The reason why some individuals preferred major rivers for swords and minor watercourses for spearheads is
difficult to ascertain: it may be related to claims of ownership, rights to particular places, exchange routes or the liminal spaces between communities, or it may have been a way of manifesting someone’s passage in those locales. The continuous flux of the water, closely linked to the concept of transformation, may have been key in practices which reconfigured the status and identity of people through different stages (i.e. the de-construction of the warrior identity, Fontijn 2002, 2005).

So far, I have summarised a series of conclusions, based on archaeological evidence combined in a theoretically informed manner, to comment upon the role that spears may have had in past societies. At the same time, through statistical analysis, I have been able to demonstrate real patterns behind the absence or presence of spearheads, which appear to reflect structured rationales behind their deposition. Yet, how has edge wear analysis contributed to these interpretations? I have argued that the state of completeness of spearheads may have reflected the deliberate selection of the pieces to be included in hoards. Whilst it is not appreciable at a large scale (and thus does not represent a statistically valid geographical or chronological pattern), many single hoards have evidence for imbalances in the parts of spears selected for deposition (Chapter 7.7). Whether this represents an intentional choice or not is therefore open to debate.

Turning attention to edge-wear, the examination has been carried out according to different categories of wear, each of them relating to different stages in the use-life of objects. Manufacture, use and maintenance may impinge upon the longevity of a spear and circulation time, their use and their effectiveness in combat. Yet, what does this evidence tell us about the biographies of objects? It has been proved that the majority of the spearheads from settlements were still usable and were characterized by a short use-span. Spears found in settlements are likely to be complete or almost complete and even when they are resharpened, they do not show heavy use-related marks. This evidence may reflect the fact that some of them were undamaged or were only slightly used at the close of their life. In one case the spearheads show repetitive indentations on the cutting edge, which are unlikely to have resulted from use: they are clearly intentional, and I could not find any practical reason for them, apart from the fact that there may have been an attempt to ‘maim’ the object. Accordingly, I suggest that their consistent presence on Middle-Recent Bronze Age sites, especially in a period when spears only rarely ended up in hoards and tombs, may reflect particular forms of ritual behaviour.
The evidence of spears from tombs does not seem to add substantially to previous knowledge about their use in cremation rituals, although the use-wear has been able to document cases where the spear has been placed in the pyre, and subsequently fragmented. It has also been able to suggest that some of the pieces may have been excluded from deposition and retained for different reasons, as a token to be used in other occasions (Brück 2004). In contrast, hoards revealed a different scenario in terms of the deliberate destruction of objects.

Fragmentation does not represent a main feature of Middle and Recent Bronze Age hoards. In this period, the evidence show purposeful damage on complete specimens (Cascina Ranza: Appendix 2: 1), mainly along the blade edge (i.e. cutting, tearing, folding etc.). In the later hoard of Pila del Brancòn (Appendix 2: 30) (Recent 2 – Final Bronze Age 1?), the assemblage shows evidence of exposure to fire. Fragments of spearheads are also present in this hoard, although they do not characterise it. In contrast, fragmentation becomes more evident by the Final Bronze Age and the Early Iron Age. I was able to demonstrate that deliberate damage which is inconsistent with actual use or function, occurs quite often and its peculiar nature or character appears to be circumscribed in time and space: the Final Bronze Age in central Italy. Such deposits have been traditionally been interpreted in economic terms as scrap or pre-currency hoards - mainly due to their composition - thus neglecting any form of ritual which has resulted in their distinctive appearance. The main categories of damage include: maiming the object, wedging small objects within it (including other pieces of bronze as well as stones), closing the openings of the spear, folding their edges, and retaining small parts of the objects which made up the deposit (similar to the evidence attested in tombs).

Although not tested through experimental archaeology (an important branch of use-wear studies which were unfortunately beyond the scope of this thesis) it seems likely that some pieces were heated before being bent and folded. This evidence may be key in commenting upon the role of the metallurgist within society as well as in the practice of fragmentation. In contrast to damage from the pyre, it may be possible that in certain occasions (perhaps public ceremonies) the smiths used both the making and unmaking of objects to convey their transformative power: a radical process of alteration through fire which rendered cold metal once more malleable (see above Fig. 7 30, 32). In this instance, I believe that the careful and skilful process of fragmentation, different from the blunter, destructive process observed in the majority of mixed hoards, speaks of such expertise at the end of an object’s life, just as at the beginning of its conception. The exact nature of such fragmentation may
relate to the special status of objects, as well as perhaps their biographies, or even the relationship between smith and artefact, or individuals, events or places. In this perspective the act of retaining small part of objects (as it has been documented in the case of spearheads) may also relate to the special status of objects, in terms of tokens or relics of lived experiences to be re-used in different circumstances. The constant enchainment between people and objects at particular times and in special places in the landscape, was also made manifest in the act of wrapping substances in other materials.

All the cases of intentional damage mentioned above referring to spearheads, were found in hoards which were traditionally interpreted in practical terms (e.g. scrap or founder hoards). However, using edge-wear observation, I have been able to challenge this interpretation of mixed hoards in central Italy. At least in some cases, I have shown that the ritual violence to which some spearheads have been subjected, cannot be explained in practical terms (i.e. as part of re-cycling). Edge-wear observations suggested that some objects may have been conceptualized as having lives which were ritually ended through deliberate damage, in a way not dissimilar from the earlier weapon hoards found in watery contexts (although the reasons behind their deposition may have been different). Thus, the functional interpretation misses the symbolic dimension of both the original object and method of treatment at the end of its use-life. In this perspective, it is important to reflect on the concept of ritual, which is not only a set of formalized procedures, but rather a pervasive action that permeates everyday life (Bradley 2005).

Earlier in this thesis I have discussed the fact that also the association of different metalwork types in hoards may have had special connotations, whose significance may relate to the intimate relations between some particular types of objects (i.e. axes, sickles, spears) and themes of fertility as well as reproduction. In the same way, I have also tried to explain the association between a few complete spears and other broken objects in some hoards through their role as symbolic harbingers of the others’ metaphoric deaths (Chapter 5.5.2, see also 7.7.3). Accordingly, contrasts may have been structured on three different levels: selection of the objects to be included in hoards (some associations are more frequent of others), the different state of objects (complete objects-compared with parts) and different treatments of objects in the same hoard (i.e also different methods of fragmentation).

Using a combination of typological, contextual and edge-wear observations, I was able to recreate a series of events in the objects life-cycle, going beyond the traditional
interpretations of spears as only weapons, and demonstrating that they may have been involved different social and ideological dynamics, whose traces are left on their surfaces. This evidence gives insight into the diverse functions of this object in the past, downplaying the more traditional interpretations of spears as sole symbols of martiality and male identity.

8.1. EVALUATING THESIS STRENGTHS AND WEAKNESSES

The central research questions outlined above were not primarily focused on the reconstruction of patterns of spearhead depositions over time, with the intent to make them fit into a broader historical framework, yet the typo-chronological study has preceded and underpinned the rest of the analysis. However, the narrow focus of such an approach has been counterbalanced through the dialogue of this technique, allied to other approaches. Their use has proved key in understanding alternative meanings of spearheads in the past, beyond the traditional association of spear-as-weapon. Thus each chapter has reflected on the potential of its own methodology relating to the key theories outlined at the start, whilst subsequent chapters picked up on and developed points raised in earlier discussions. This enabled the identification of repeating themes. If at times, this appeared repetitive (returning to the same case study from a different angle) this was necessary in order to evaluate the potential of each method.

A further weakness which may be probed is the interpretation based on edge-wear observations (e.g. the action of heat in demonstrating evidence such as folded edges). Other edge-wear studies have been able to validate their hypotheses with experimental observations, but this was beyond the scope of this thesis. Thus, further experimental work or microscopic analysis would be desirable. In addition, this thesis was not intended to provide a comprehensive analysis of the use of spears in combat, although it has been touched upon, as this would also have required a different methodological approach. The exclusion from the present work of that particular theme has thus been intentional, and evidence for this has been interpreted through the lens of other authors’ work (e.g. Bridgeford 2000, Davis 2006). Again, experimental work compared against edge-wear results would further appreciation of this issue.

The fact that the thesis focused upon a lone class of object, namely the spear, inevitably results in a partial view of the complex theme of metalwork in later prehistory. Wider analysis, extended to a number of other metalwork types, may have provided a more holistic view of patterns of deposition during the Bronze Age, though wherever possible, I have tried
to draw comparisons with published evidence. In addition, the point of this thesis was to focus on an under-studied and under-valued object, in order to enrich those previous studies.

8.2. SUGGESTION FOR FURTHER RESEARCH

In this thesis, I have proposed a series of interpretations based on typo-chronological and depositional patterns, as well as edge-wear analysis, to make inferences about the life-cycles, potential meaning and symbolic significance of spearheads. Above all, edge-wear analysis have proved a key tool, by which I was able to demonstrate that traces left on the surface of objects may have reflected particular biographies. This has demonstrated that traditional views about objects may be challenged and rectified using different methodological tools, even when focusing on a single class of object. Such functionalist approaches tend to marginalise the notion of ritual behaviour, dismissing it as the most subtle aspect of ideological behaviour which is hard to apprehend (Borgna 2000-2001). However, admitting that human practices were permeated with ritual (taking the form of customary or traditional gestures), allows us to explore the ways in which such beliefs and performances left their trace upon objects, in all sorts of contexts, permitting us to examine this field of discourse through analysis. From this perspective, I would argue that certain aspects of ideological symbolism can be also examined though edge-wear analysis. In order to understand how people both conceptualised and made use of objects, a solution may be found in the combined methodological approach advocated here: typology, dating, observation and documentation, contextual analysis and edge-wear observation. Key to such an approach is an explicit theoretical agenda, which moves interpretation on from the function of metal to its meaning. One of the benefits of such an approach is the ability of the archaeologist to minimise damage (and cost), through a research design which selects the most appropriate objects (those with the greatest interpretive and contextual potential) to be analysed from groups of large assemblages.
8.3. CLOSING STATEMENT

Throughout this thesis I have argued that, in contrast with more traditional typological approaches which have dominated Italian archaeology, a study which combines more theoretically developed and analytically diverse tools, may provide us with a richer insight into the way past peoples used objects as media for cultural communication. The main outcome of the study is to add a new perspective to the scholarly interpretation of Bronze Age metalwork in Italy. The idea that the passage of time can be detected through the visual observation of objects, has driven the reconstruction of a series of events in the objects life-cycle, which enrich more traditional interpretations of spears as weapons – showing them to be the mediums of other important aspects of identity. The inevitable connotations of masculinity and martiality have been tempered with suggestions that they were symbols of defence as much as power, representing group identity more than warrior elites. Their liminal status, crossing various boundaries of wild and domestic, enabled them to be used to negotiate aspects of transformation (such as rites of passage) as well as be used to reiterate the boundaries or thresholds of places. Moreover, it has been suggested that they may have had particular associations with certain age-sets and periods in peoples’ lives. Spears were thus vital to the Bronze Age, as a flexible, multivalent weapon, whose biographies were entwined in complex ways with those of people as well as places.
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SPEARS IN CONTEXT: TYPOLOGY, LIFE-CYCLES AND SOCIAL MEANINGS IN BRONZE AGE ITALY

A thesis submitted to the University of Manchester for the degree of Doctor of Philosophy in the Faculty of Humanities.

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VOLUME II
APPENDIX 1-2

(TYPОLOGY OF THE ITALIAN SPEARHEADS AND EDGE-WEAR OBSERVATION)
APPENDIX 1: Alphabetical list of the archaeological contexts, according to different chronological phases

<table>
<thead>
<tr>
<th>No.</th>
<th>TYPE</th>
<th>FINDSPOTS</th>
<th>REGION</th>
<th>CHRONOLOGY</th>
<th>CONTEXT OF FIND (cf. Chapter 3, Table 3.5)</th>
<th>No. SPEARHEADS (in each context)</th>
<th>CONTEXT EXAMINED IN APPENDIX 2</th>
<th>BIBLIOGRAPHY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L 3B</td>
<td>Avigliana (TO)</td>
<td>PIEDMONT</td>
<td>MBA2</td>
<td>WET: 2.II ?</td>
<td>1</td>
<td></td>
<td>Gambari and Venturino: Gambari 1996: Fig.5.4</td>
</tr>
<tr>
<td>2</td>
<td>L42</td>
<td>Bellaguarda (MN)</td>
<td>LOMBARDY</td>
<td>MBA3</td>
<td>DRY: 1</td>
<td>1</td>
<td></td>
<td>De Marinis, Salzani 1997: Fig. 406</td>
</tr>
<tr>
<td>3</td>
<td>L 15; L 16B; L26</td>
<td>Boccacozla Vecichia di Poggio Rusco (MN)</td>
<td>LOMBARDY</td>
<td>MBA3</td>
<td>DRY: 2.II</td>
<td>3</td>
<td></td>
<td>Tosatti 1984: Fig. 17.166 (L26); 167 (L16B); 168 (L15)</td>
</tr>
<tr>
<td>4</td>
<td>L13; L22</td>
<td>Bodio (VA)</td>
<td>LOMBARDY</td>
<td>MBA1</td>
<td>WET: 1.II</td>
<td>2</td>
<td>2/1-2</td>
<td>Maggi 1874: Fig. 1-2 (L22); Banchieri 1986: Fig. 4.7 (L13)</td>
</tr>
<tr>
<td>5</td>
<td>L27A; L27B</td>
<td>Borr di Pacengo (VR)</td>
<td>VENETO</td>
<td>MBA1-2</td>
<td>WET: 1.II</td>
<td>3</td>
<td>26/1-2</td>
<td>Aspes ans Borghesani 1980: Fig. 23.8 (L27A); Aspes and Fasani 1967-68: Fig. 18.5, Simeoni 1992: Fig. 3.7 (SLS3B)</td>
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<tr>
<td>6</td>
<td>L16B</td>
<td>Campore di Bargone (PR)</td>
<td>EMILIA ROMAGNA</td>
<td>MBA3</td>
<td>DRY: 2.II</td>
<td>1</td>
<td>15/2</td>
<td>Unpublished; see Appendix 2: 15/2</td>
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<td>7</td>
<td>SLS3A</td>
<td>Cantuello di Ricengo (CR)</td>
<td>LOMBARDY</td>
<td>MBA3</td>
<td>DRY: 1/2 ?</td>
<td>1</td>
<td></td>
<td>Tosatti 1980-81: Tav. ii.3</td>
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<tr>
<td>8</td>
<td>L16A</td>
<td>Casentidì di Sanbasotto (PR)</td>
<td>EMILIA ROMAGNA</td>
<td>MBA3</td>
<td>DRY: 2.II</td>
<td>1</td>
<td>12/2</td>
<td>Multi 1993: Fig. 27.9</td>
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<tr>
<td>9</td>
<td>L3 A; L12</td>
<td>Cassina Ranza (MI)</td>
<td>LOMBARDY</td>
<td>MBA1</td>
<td>WET: 2.I</td>
<td>31</td>
<td>1/1-31</td>
<td>Vannacci Lunazzi 1973. See in particular Fig. 2.8 (L3A); 1.1, 7, 16, 17; 2.1, 5 (L12)</td>
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<td>10</td>
<td>SLS7A</td>
<td>Casinatello (MO) (MOULD)</td>
<td>EMILIA ROMAGNA</td>
<td>MBA3-RBA</td>
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<td>1</td>
<td></td>
<td>Zanasi 1997 c: Fig. 335.42</td>
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<tr>
<td>11</td>
<td>L 15; SLS3A</td>
<td>Castione dei Marchesi (PR)</td>
<td>EMILIA ROMAGNA</td>
<td>MBA3</td>
<td>DRY: 2.II</td>
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<td>13/1-2</td>
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<td>Codemondo (RE)</td>
<td>EMILIA ROMAGNA</td>
<td>MBA3-RBA</td>
<td>DRY: 2.II</td>
<td>1</td>
<td>16/1</td>
<td>Bianchi and Lincetto 1997a: Fig. 237.124</td>
</tr>
<tr>
<td>13</td>
<td>L12</td>
<td>Cuneo, Gesso stream (CU)</td>
<td>PIEDMONT</td>
<td>MBA1</td>
<td>WET: 3.I</td>
<td>1</td>
<td></td>
<td>Gambari and Venturino 1986: Fig.1</td>
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<tr>
<td>14</td>
<td>L16B</td>
<td>Eccle Homo (VR)</td>
<td>VENETO</td>
<td>MBA3?</td>
<td>UN</td>
<td>1</td>
<td></td>
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## Recent Bronze Age - Recent Bronze Age 2/Final Bronze Age 1

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<td>Salzani 1994a: n. 30, 44, 46 (L17B); n. 25 (L29A); n. 21 (L29B); n. 18, 20, 22, 31 (L44A); n. 24, 47 (L44a α β); n. 11-16, 23, 33 (SLS 8); 32 (SLS 10A); n. 26, 41 (LS 1). All the other fragments can be assigned to the types mentioned.</td>
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**FINAL BRONZE AGE - FINAL BRONZE AGE 3/EARLY IRON AGE 1**

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<td>31/1</td>
<td>Fasani and Salzani 1975: Tav. 10.6</td>
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<td>143</td>
<td>L48A</td>
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<td>VENETO</td>
<td>FBA2</td>
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<td>3</td>
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<td>Salzani 2003: Fig. 3, 11-12</td>
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<td>144</td>
<td>L48A; L48A α</td>
<td>Frattesina-survey (RO)</td>
<td>VENETO</td>
<td>FBA3</td>
<td>DRY: 2.II</td>
<td>3</td>
<td>34/1-3</td>
<td>Salzani 1998b: Fig. 1.4 (L48A α); Unpublished; see Appendix 2: 34-2/3</td>
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<td>L46B</td>
<td>Fuconio (AQ)</td>
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<td>L40B</td>
<td>Generically from Fuconio (AQ)</td>
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<td>Peroni 1961a: Tav. XIX.2</td>
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<td>10</td>
<td>40/1-2</td>
<td>Orsi 1887: n. 14-15; Müller Karpe 1959: Tab. 47; see Appendix 2: Fig. A. 337, 348 (L40B); 341 (L40C); 342, 343, 346, 350, 351 (frag. L40)</td>
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<td>150</td>
<td>L49</td>
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<td>151</td>
<td>und.</td>
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<td>Barker 1985: Fig 70.3</td>
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<td>LS 4</td>
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<td>UN 1</td>
<td>Peroni 1961a: Tab. XX.2</td>
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<td>153</td>
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<td>Gravina 1982: Fig. 29.1</td>
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<td>154</td>
<td>L21A; L40A</td>
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<td>155</td>
<td>UL23</td>
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<td>LOMBARDY</td>
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<td>De Marinis 1971-1972: Tab. X.3</td>
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<td>156</td>
<td>L36 β</td>
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<td>SLS 8</td>
<td>Maponsa (VA)</td>
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<td>Mira Bonomi, A., 1978Fig. 5.1-2</td>
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<td>Marzalato 1997b: n. 221</td>
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<td>162</td>
<td>L39a, s, SLS 6</td>
<td>Mezzolombardo al Crocefisso (TN)</td>
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<td>UN 2</td>
<td>Marzalato 1997b: n. 237</td>
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<td>De Marinis 1970 b: Tab. V.3-4</td>
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<td>Monte Primo (MC)</td>
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<td>Peroni 1963a: n. 6-8, 15</td>
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<td>168</td>
<td>L41</td>
<td>Morano sul Po - Cemetery (AL)</td>
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<td>Gamboni 2006: Fig. 140.10</td>
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<td>Murge di Ruvo (BA)</td>
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<td>Jatta, A. 1894: Fig. 112</td>
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<td>170</td>
<td>L21A</td>
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<td>Bruno 2007: Tab. 19.24</td>
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<td>ULS6; LS 8</td>
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<td>CALABRIA</td>
<td>FBA1-2</td>
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<td>Pacciarelli 2001: Fig. 111.3 (ULS6); 112.2 (LS 8); 113.2 (iron spear)</td>
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<td>LS 8</td>
<td>Oppido Mamertina - stray find</td>
<td>CALABRIA</td>
<td>FBA1-2</td>
<td>DRY: 1 ? 1</td>
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<td>174</td>
<td>L21A</td>
<td>Oratino (CB)</td>
<td>MOLISE</td>
<td>FBA 2-3</td>
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<td>L21B</td>
<td>Ortucchio (AQ)</td>
<td>ABRUZZO</td>
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<td>UN 1</td>
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<td>176</td>
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<td>Palazzo dello Stellia (UD)</td>
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<td>L38</td>
<td>Pergine Valsugana (TN)</td>
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<td>FBA 3?</td>
<td>WET: 3.II 2</td>
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<td>CHRONOLOGY</td>
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<td>No. SPEARHEADS (in each context)</td>
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<td>L21B-C</td>
<td>Pertosa Cave (inside the cave) (SA)</td>
<td>CAMPA NIA</td>
<td>FBA 2-3</td>
<td>WET: 3.IV</td>
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<td>Kilian 1963-64: n. 1-2, 42 (L21B- C); Rellini 1916: Tab. 2.8 (examined) (L40C)</td>
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<td>L21A-D; L24; L40A, D; L40C; SLS 58</td>
<td>Piediluco (TR)</td>
<td>UMBRIA</td>
<td>FBA 2-3 (also SA)</td>
<td>DRY: 3.III</td>
<td>39</td>
<td>38/1-39</td>
<td>Leopold 1939; Müller Karpe 1959: Tab. 49; see Appendix 2: Fig. A.307 (L21A); 279-282; 276, 298, 306.1 (L21B); 301-303.2 (L21C); 314, 317 (L21D); 305 (L24); 291, 310, 316 (L40A); 309, 319 (L40D); 315 (L40C α) + frag L40; 311 (SLS 5B)</td>
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<td>L21B; L21B; L39B; L44B</td>
<td>Poggio Berni (RM)</td>
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<td>FBA1-2</td>
<td>DRY: 3.III</td>
<td>18</td>
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<td>Morico 1984: Fig. 2.5 (L44B); 2.6 (L39B); 2.9-10; 3.7-8, 13 (L21B); 3.12 (L21B α); 10 frag. not published.</td>
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<td>Salzani 2005 b: Fig. 145. D, F, G, L</td>
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<td>Santa Marinella (RM)</td>
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<td>Bastianelli 1934: Fig. 2.a-b</td>
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<td>FBA</td>
<td>UN + WET:3.I (Type 46 B α)</td>
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<td>FBA3</td>
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<td>48/1</td>
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<td>Zambana-Scalette (TN)</td>
<td>TREN TINO- ALTO ADIGE</td>
<td>FBA 2-3</td>
<td>UN</td>
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<td>Marzatico 1997b: n. 1060 (L21A ); n. 1059 (L39A)</td>
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In this chapter I shall introduce a short account of the typological classification, which refers to a wider typology presented in a previous work (Bruno 2007). A vast body of spearheads are divided in three main categories: *lanceolate* (*L*), when the maximum width is very close to the base of the blade; *slightly leaf-shaped* (*SLS*), when the maximum width is under the half length of the blade; *leaf-shaped* (*LS*) when the maximum width corresponds to, or is above the half length of the blade. Subsequently, I distinguish four groups on the base of the blade profile: *sub-triangular* (with angled or rounded base); *flamed* (slightly flamed or markedly flamed) and with a *not markedly distinct base*, which characterizes a blade not distinguished from its base, thus having a convex or convergent edges up to the top of the blade. Within these groups, spearheads are further gathered considering the length, the shape and the section at the mouth of the socket (conic or cylindrical, circular or hexagonal). Same other features such as decoration, section of the midrib were considered (for further details see Chapter 4) (Tab.1). The following section will be devoted to a brief description of the types.

The Middle Bronze Age BA (Bz B-C in central European chronology) is generally divided in three sub-phases, during which the amount of specimens increase consistently. Typologically, the Middle Bronze Age is characterized by spearheads with the maximum width very close to the base of the blade (*lanceolate*) and with a *rhomboidal* (*R*), *sub-triangular* (*S*), *flamed* (*F*) and a *not-markedly-distinct-blade* (*NM*). Among those with sub-triangular blade I have distinguish the specimens with *angled* and *rounded* blade. Spearheads with the maximum width close to the half way the length of the blade (*slightly leaf-shaped*) with either a *sub-triangular* or a *not-marked* base are also attested in this period. The first spearheads made their appearance in Italy around 1700 BC. The majority of them comes from pile-dwelling, *terramare villages* and from an extraordinary hoard, Cascina Ranza (Milan-Lombardy), located in north-western Italy (Vannacci Lunazzi 1973).

The Recent Bronze Age (Bz D-Ha A1 in central European chronology) is characterized by a conspicuous increase in spearhead production. Besides the previous
categories and groups of spearheads, which continue to be attested, there are some novelties in terms of technical developments such as the new category of leaf-shaped (LS) spearheads, that makes now its appearance, markedly flamed and stepped blades, rhomboidal and squared midribs, fillets which run parallel to the cutting edges. Contrarily, the specimens with decorative motifs are very few, compared with the previous period. The majority of the spearheads, assigned to this period, come prevalently form terramare sites hoards and scatter finds, which are widely distributed over the Italian peninsula.

The majority of the types assigned to the Final Bronze Age concerns lanceolate spearheads with flamed blade. The categories and groups of spearheads, which made their appearance in the previous phases of the Bronze Age, continue to be attested. By the advanced phases of the Final Bronze Age, spearheads with polygonal sockets started to be attested. The fact that the Final Bronze Age types are constituted by an increasing number of specimens, compared with the Middle-Recent Bronze Age types, may indicate a sort of “standardization” of the spearhead production. Interestingly, it may be worth noting a marked difference between very large spearheads and small specimens, which can be found together in the same context (i.e. Piediluco hoard: 179).

LANCEOLATE (L)

- Lanceolate spearheads with rhomboidal blade (I Group): the only three specimens with rhomboidal blade are only attested in the Viverone lake-village (Turin-Piedmont). They are small/medium spearheads with a large blade and a medium-sized and conical socket (Tab. 2.1) (Type L1). Another specimen with rhomboidal blade is assigned to the Final Bronze Age, phase 3 and it is part of the funerary inventory included in the tomb of Tintoria Comense (Como-Lombardy) (De Marinis 1971-1972). It has a decoration on the socket, consisting of two bands of engraved lines (Appendix 2: 8/1: Fig. 80) (Type L2) (Tab. 2.2).

- Lanceolate spearheads with sub-triangular blade and angled base (II.A Group): contrarily, the spearheads which have been gathered under this group have a wider distribution during the MBA. However, in the early phase of the Middle Bronze Age (MBA 1), spearheads with these characteristics can be only found in the Cascina Ranza hoards (9), located in north-western Italy (Tab. 2.3) (Type L3 A). The majority
of the pieces contained in the hoard has a fine decoration on the socket, that consists of a series of bands of engraved lines, superimposed by overturned arcs. Exact parallels come from central and eastern Europe (Hungary, Moravia, Bayern, Baden-Wütttemberg, the Swiss Mitteland and Sweden), perhaps indicating contact with the Bavarian area through the North Tyrol. In the subsequent phase of the MBA 2, the spearheads from the Avigliana hoard (Turin-Piedmont) (Tab. 2.4) (Type L3 B), though undecorated, presents very close similarities with those in the Cascina Ranza hoard.

Toward the end of the Middle Bronze Age (MBA 3), the group of spearheads with sub-triangular blade and an angled base presents different characteristics:

- Small spearheads with a large blade and a medium-sized conical socket (Type L4) (Tab. 3.1);
- Medium spearheads with a large blade and medium-sized and cylindrical socket (Type L5) (Tab. 3.2);
- Small/medium spearheads with a large blade and a long and conical socket (Type L6) (Tab. 3.3);
- Large spearheads with a narrow blade and a long and cylindrical socket (Type L7) (Tab. 3.4).

By the Recent Bronze Age the number of spearheads with angled base considerably reduces, compared with the previous period. Apart from Type L8 (Tab. 3.5), that is mainly localized in southern Italy, the other two types have an exclusive distribution in the Terramare area (with the exception of the specimen contained in the Soncino hoard: 110) (Type L9-10) (Tab. 4. 1-2). The spearheads collected under this group are medium and small, with either a narrow blade and a medium-sized cylindrical socket (Type L8-9) or a large blade and a medium-sized conical socket (Type L10). The main difference is the section of the midrib which can be circular (Type L10), flat (Type L8-9), rhomboidal (Type L10) or rhomboidal in the tip area and flat in the remaining part of the blade (Type L9). According to the fact that there does not seem to be any relationship with the previous types, it may be possible to envisage, at least in the case of Type L9-10, a restricted production and consumption of spearheads, which in this period appear localized in the Terramare area. It may be worth noting that, despite the metallurgical koiné, that is characterized by the exponential increase of spearheads (and not only), followed by a wider distribution of metalwork types over the Italian peninsula, there is,
however, a sort of small and restricted districts of circulation localized in different geographical areas (for example the Alpine area)

The only specimen attributed to Final Bronze Age, phase 3 is a spearheads found in a tomb at the Cà Morta cemetery (131) (De Marinis 1978) (Type L11) (Tab.4.3).

- Lanceolate spearheads with sub-triangular blade and rounded base (II.B Group): among the spearheads with rounded blade, the first attestations can be found once again in the Cascina Ranza hoard and they refer to both decorated (see above) and undecorated specimens (Type L12) (Tab. 5.1). Another spearhead, found at the foothill of the Cuneo plateau alongside the Gesso stream (13), show a fine decoration on the socket, consisting of rows of upside-down arcs, waves and hatched triangles, which are separated by bands of engraved lines. Two parallel rows of overturned arcs run over the midrib and culminate in a “lance” motif. On the central portion of the blade, two pairs of lines run parallel to the cutting edges. Also in this case, both the decoration (also found on the Apa-Hajdúsámson type swords), and the texture of the metal may speak in favour of an object not locally produced; instead, it indicates contacts with the Hungarian workshops, perhaps through the river Tanaro, that links the eastern and western part of Italy (Gambari and Venturino Gambari, 1986) (Tab. 5.2). The medium/large spearheads belonging to this type have a narrow blade and a long and cylindrical socket.

The two spearheads included in the Type L13 were found in two different lake villages. The sites of Peschiera (Verona – Veneto) flourished in the course of the Middle-Recent Bronze Age, while Bodio (Varese – Lombardy) in the Middle Bronze Age with a peak in the Early Bronze Age (2300-1700 BC). Unfortunately, the circumstances of the recovery as well as the absence in this type of similar specimens from secure contexts, hamper a better chronological attribution. Therefore the two spearheads here considered have been assigned to the earlier phases of the Middle Bronze Age (MBA 1-2), which are the most attested phases at Bodio (Tab. 5.3-4).

By the end of the Middle Bronze Age, shapes and feature already attested in the previous phases appear widely distributed toward north-eastern Italy and in the Terramare area in the Po plain. In this moment we can find:

- Medium spearheads with narrow blade and a medium-sized cylindrical socket (Type L14) (Tab. 6.1), which seem to have a link with those in Type L12 (Tab. 5.1-2);
- Small spearheads with large blade and a medium-sized and cylindrical socket (Type L15) (Tab. 6.2);
- Small spearheads with a large and stepped blade and a long and conical socket (Type L16 A) (Tab. 6.3-5), prevalently distributed in the Terramare sites;
- Small spearheads with a large blade and a long and cylindrical socket (Type L16 B) (Tab. 7.1-2).

In the course of the Recent Bronze Age there are no major variations and the majority of the spearheads included in this group seem to share technical relationship with some of the types attested in the previous period. For example, there is a type of spearheads which shows a close link with Type L15, assigned at the end of the Middle Bronze Age. They include small spearheads with large blade, flat (Type L17 B) or circular midrib (Type L17 A-B) and a medium-sized cylindrical (Type L17 B) or conical socket (Type L17 A) (Tab. 7.3-4). This two sub-types can be assigned to the advanced phase of the Recent Bronze Age (perhaps Final Bronze Age, phase 1) on the basis of the presence in Type L17 B of a spearhead from the Pila del Brancòn hoard (92). The other spearheads included in this group have a blade, which is very similar to the previous type, though they differ from each other for other different features: in two instances the socket is long (Unicum L19 and L20) and in another one the blade is stepped and its section is rhomboidal in the tip area (Unicum L18) (Tab. 8.1-3).

By the advanced phases of the Final Bronze Age, the spearheads included in this group show a uniform design, that is closely linked with that attested in the previous phases of the Bronze Age. The spearheads have been divided into four sub-types:
- Spearheads with a narrow blade and a medium-sized cylindrical socket (apart from few exceptions) (Type L21 A) (Tab. 8.4). Among them, the spearheads from the tomb of Moncucco (165) (De Marinis 1970), varies from the type for the presence of a decoration on the socket, consisting of two bands of engraved lines separated by a row of hatched triangles. De Marinis (1970 b: 89) assigned the decoration around the circumference of the socket to the HA B2-3 (9th-8th century BC) (Type L21 A α) (Tab. 8.5).
- Spearheads with squat shape (the maximum width is closer to the base of the blade) with a large blade, squared midrib (Type L21 C) (Tab. 9.4) and a medium-sized conical socket (Type L21 B-D) (Tab. 9.1, 9.3). The sub-type L21 D is characterized by two specimens from the Piediluco I hoard (179) with polygonal socket (Tab. 9.3).
In one instance, the spearhead has a rib running over the midrib (Type L21 B a) (Tab. 9.2).

Interestingly, the spearheads included in this group show a continuity across adjacent phases of the Bronze Age, indicating an increasing development from the Middle Bronze Age up to the Final Bronze Age.

- Lanceolate spearheads with slightly flamed blade (III Group): slightly flamed blades are represented by two specimens from lake-villages, respectively Bodio (4) and Isolone del Mincio (22) (Type L22) (Tab. 10.1-2). Interestingly, the former spearhead shows a well executed decoration above the mouth of the socket, consisting of bands of engraved lines. This decoration is widely attested in central and eastern Europe: the north-eastern part of the Carpathian basin, Bayern, and Switzerland. Banchieri (1986: 20) dates it at the end of the early Bronze Age and Jacob-Friesen (1967: 105) groups this class of objects under the name of “Sonderformen der Frühen Bronzezeit”. In a recent work Vanzetti (1998) identifies a moment between the end of the Early Bronze Age and the beginning of the Middle Bronze age (Bronze A2 c), which would correspond to the Italian Middle Bronze Age, phase 1. However, all these considerations hint at a very early date, that probably makes the spearhead from Bodio the most ancient piece in the Italian Peninsula.

While Recent Bronze Age types are virtually absent, those assigned to the Final Bronze Age are very few:

- Unicum L23 is a spearhead with unknown provenance. It has a narrow blade and a medium-sized conical socket. It shows a well executed decoration on the socket, consisting of two bands of incised lines and dots, separated by a row of rhomboidal motif. A triangle, formed by engraved lines and dots, is imposed on the uppermost band, while three incised lines run parallel to the cutting edges. This spearhead has close counterpart in Swiss and it can be assigned to the end of the Final Bronze Age (Tab. 10.3);

- Spearheads with narrow blade and a polygonal and conical socket (Type L24) (Tab. 10.4). Apart from the slightly flamed blade and the polygonal socket, the general squat shape recalls that of spearheads included in Type L21 A;

- Spearheads with very narrow blade and a short and cylindrical socket (Type L25) (Tab. 11.1). The two spearheads come from the same hoards (“Southern Italy” hoard: 121) and one of them has a stepped blade.
• Lanceolate spearheads with flamed blade (IV Group): two types including spearheads with a flamed blade have been assigned to the early phases of the Middle Bronze Age. They share all the same characteristics, but the socket, that in one case is long and in the other one is very short (Type L27 A-B) (Tab. 11. 2-3). The spearheads included in Type L26, a part from the fact that they have a narrow blade, are very similar to those in Type L27 B (Tab. 11.4) and they can be attributed to the end of the Middle Bronze Age.

The Recent Bronze Age is characterized by a sharp increase of the number of spearheads with flamed blade. However, it is possible to distinguish two main group on the basis of their blade which in some cases is sinuous and in other instances is markedly flamed. The spearheads in the first group have a narrow blade and a short (Type L29 A-B) (Tab. 12. 1, 3) or medium-sized socket (Type L28, L29 C, L30) (Tab. 12. 2, 4; 13.1), which is always cylindrical. The sub-type L29 B includes spearheads with stepped blade. The majority of the spearheads mentioned so far has a circular midrib, but in some occasions it is flat (Type L29 C, L30) or squared (Type L29 A) (Tab.13.2). The specimens in Type 29 C show a particular feature, which recurs quite often in this period: at a point where the socket and the blade conjoin, the midrib shows a sort of narrowing; this characteristic has exact counterparts in spearheads contained in some Hungarian hoards, which have been assigned to the Aranyos and Kurd horizons (Mozsolics 1985, in particular Bükkaranyos – hoard II: Tav 3-5). However, it may be worth noting that the same feature is also attested in Moravia toward the end of the Late Bronze Age (Ha A1-A2) (Říhovský 1996: Tav. 21. 233).

The second group is characterized by very peculiar spearheads, which are mainly localized in north-eastern Italy, respectively in the actual province of Udine and in the alpine valleys of Trentino-Alto Adige/Südtirol. Type L31 (Tab. 13.3) is characterized by medium spearheads with narrow blade, long and conical socket, while the majority of the spearheads included in Type L32, though very similar to Type L31, have a stepped blade and the particular characteristic of the blade mentioned above (Tab. 13.4). In this period, similar features are also attested on large spearheads (Type L34) (Tab. 14.1). Moreover, the two specimens included in this type have a squared midrib.

The number of the spearheads included in this group increases in the course of the subsequent phase of the Final Bronze Age. The main types can be described as follows:

- Spearheads with narrow blade and a long and cylindrical (Type L35, L36, L36 α-β, Unicum L37) (Tab. 14.2; 15. 1-3) or conical socket (Type L38) (Tab. 15.4). The
spearheads in Type L36 β has an incised decoration on the socket and midrib, consisting of alternating registers of circumscribed circles and arcs, separated by bands of three lines. An “arrow” motif, formed by two hatched lines runs over the midrib. This decoration has exact counterparts in the area of the Swiss and French lake-dwelling villages and it can be assigned to the Final Bronze Age, phase 3 (Ha B1). It is also found on other metalwork types: knifes, swords and pottery (De Marinis 1970a: 64). Contrarily, I could not find any parallel for the decoration on the socket of the spearhead classified as Unicum L37. It consists of cross hatched bands separated by a row of engraved “arrow” motif contained between bands of two evenly spaced lines. The decoration continues on the midrib and it consists of a “bone fish” motif, ending with a rhomb-shaped motif;

- Spearheads with narrow blade and a medium-sized and cylindrical (Type L39 A, L39 a-β) or conical socket (Type L39 B) (Tab. 16); while the majority of the specimens has incised lines running parallel to the cutting edges, two of them show different features: one spearhead has a flat midrib and ribs on the blade in stead of incised lines (L39 a) (Tab. 16.2), while another one (L39 β) has a decoration around the base of the socket, comprising two bands of engraved lines, delimited by a series of engraved bows (Tab. 16.3). This decoration is widely attested in the Urnfield culture group of central-eastern France and Bayern and it can be attributed to the end of the Bronze Age-First Iron Age (De Marinis 1970 a: 66). Although all the similarities, Type L39 A can be assigned to the Final Bronze Age, phase 3, while Type L39 B to the early phases of the same period;

- Large spearheads with narrow blade and polygonal socket. Incised lines run parallel to the cutting edges. The socket of these specimens is cylindrical and not very long (Type L40 A-D) (Tab. 17). The spearheads included in Type L40 C are smaller than those in the other sub-types, though they show the same technical features (Tab. 17.3). Type L40 C a varies from the main type in the section of the socket which is polygonal (Tab.17.4). The majority of the spearheads included in these sub-types has been found in hoards located in central Italy and they can be attributed to end of the Final Bronze Age and to its overlap with the following phase of the Iron Age. Although all these specimens share a similar design, the spearheads in Type L40 B have a characteristic decoration on the lower blade (on the socket in only one case), consisting of small circumscribed circles (Tab. 17.2); those included in Type 40 D show a decoration on the cutting edges consisting of three grooves which run parallel to the cutting edges.
The innermost line forms the base of a row of hatched triangles (Tab. 17.4). Hatched triangles are incised on some Iron Age spearheads from the cemetery of Terni (Umbria). Parallels are also found in Greece in a period ranging between the Late Helladic III B-C I and Sub-Mycenaean (Ponzi Bonomi 1970: 107-108).

One of them (Appendix 2: 38/39, Fig. 319) has a particular decorative motif which varies from that of the main type. On one side, the decoration consists of two longitudinal and opposed rows of hatched triangles, one running parallel to the cutting edge and the other one to the midrib from the base on the blade to a point approximately halfway up the length of the blade. On the other wing, there is a row of hatched triangles parallel to the midrib, while on the cutting edge there are small oblique strokes flanked internally by a longitudinal engraved line. The midrib is characterized by a “fish bone” motif. On the other side, the decoration on one of the blade wings consists of two longitudinal rows of hatched triangles, one running parallel to the cutting edge and the other one to the midrib. On the other wing, the surviving motif consists of a band of two evenly spaced lines, which forms a right angle. Small oblique strokes have been engraved within the space delimited by the two lines.

- Small spearheads with large blade and a long and conical socket (Type L41) (Tab. 18.1).

- **Lanceolate spearheads with a not-markedly distinct blade and convergent edges (V.A Group):** I have included in this group those spearheads characterized by a blade that is not distinguished from its base, thus having a convex or convergent edges up to the tip. The only type assigned to the end of the Middle Bronze Age and to its overlap with the subsequent phases of the Recent Bronze Age is represented by two specimens, which show a peculiar decoration on the midrib, consisting of rows of small horizontal strokes (Type L42) (Tab. 18.2-3). One of the spearheads was found in an urn in the cemetery at Bellaguarda (2), and it is among the few examples of spearheads in funerary contexts in this period. Another specimen is held to the Museum of Aquileia (30). They have an exact counterpart in an a tomb at Mitopolis (Peloponnese, Greece) (Tab. 18.3). Overall, the general shape of this type (short socket, convergent edges and stepped blade) recalls that of the later specimens contained in the Pila del Brancòn hoard (92), which belongs to the subsequent phase of the Recent - and perhaps - Final Bronze Age, phase 1.
As far as the design of the Recent Bronze Age spearheads is considered, the majority of them included in this group shows a close link with Type L42, though some differences (especially Type L44 A, L44 α, β, L43 and L45). In particular, Type L44 A mainly includes spearheads from the Pila del Brancòn hoard and they all have a stepped blade, a flat midrib and a short socket (Tab. 19.2). One of them (Type L44 α) shows a decoration above the mouth of the socket consisting of small oblique strokes delimited by two bands of engraved lines (Tab. 19.4). Similar features of the blade are also attested on other different types of spearheads (Type L46 A, L47) (Tab. 20.2-3). As in the case of Type L34, Type L47 is represented by three specimens, which were found respectively in Trentino-Alto Adige/Südtirol and Piedmont. Gambari and Venturino Gambari (1986) assumed that decorated spearheads, that seems to have been produced in the Hungarian workshops during the earlier phases of the Middle Bronze Age (Type L12: Cuneo-Gesso stream), may have reached Piedmont through the river Tanaro, a natural east (central Po plain)-west axis, that has been active for centuries. The fact that spearheads belonging to the same types (Type L34, L47) are found in these two distant geographical areas indicates that perhaps this route was still active during the Late Bronze Age.

A close link between the Recent and Final Bronze Age types can be documented in very few cases: Type 44 B seem to have punctual counterpart in the Pila del Brancòn hoard, though the socket is longer in the Final Bronze Age specimen (Tab. 19.3). Therefore, it is possible to suggest that this type of spearheads covers a wide chronological range, which spans from the Recent Bronze Age up to the earlier phases of the Final Bronze Age; the spearheads included in Type 46 B are closely linked to those in Type L46 A, though a more conical socket characterizes the later specimens (Tab. 20.2).

A part from these few cases, the other spearheads seem to have a typical Final Bronze Age design which is not documented before:

- **Type L48** is represented by spearheads with narrow blade and a medium-sized and conical socket. The complete spearhead from Frattesina (144) shows a well executed decoration, consisting of “chevron” motifs on the midrib and “curl” motifs separated by bands of incised lines on the socket (Type 48 α) (Tab.21.1). This decoration is an **unicum**, as it does not seem to have parallels neither in Italy nor outside the Italian peninsula, at least up to now. However, a spearhead with a very similar shape was found in the grave 1/191 at Velika Gorica (Croatia) (Vinski-Gasparini 1973: 347).
The grave goods also included a razor of the Oblekovice type, which can be compared with the Italian razors of Fontanella type, attributed to the end of the Final Bronze Age (Bianco Peroni 1979: 59-60). According to the aforementioned considerations, I have attributed the spearhead from Frattesina to a later phase of the Final Bronze Age (FBA 3) (Bruno 2007:171-172);

- Spearheads with narrow blade and a long and cylindrical socket (Type L49) (Tab. 21.2). Interestingly, the two pieces included in this type (Aprilia Rimessone hoard: 124 and Contigliano/Piediluco II hoard: Appendix 2: 39/7, Fig. 328) show the same design and the same treatment. In fact, they have been both included in hoards and the upper part of their blade has been intentionally broken.

- The Unicum L50 has an “arrow-shaped” tip (Tab. 21.3). This particular feature has not an exact counterpart in the Italian peninsula, at least up to now (NB. as a matter of fact a similar characteristic has been noted on one specimen from San Polo d’ Enza: Appendix 2: 17/1, Fig. 111. However, the extent to which it may have been intentional is not clear, due to the effect of the corrosion).

- Spearheads with narrow blade and a short and cylindrical socket. Two small holes are evident at the base of the blade on the two sides of it (Unicum L51) (Tab. 21.4);

- Small spearheads with large blade and a short and circular (Type L52 A) or polygonal (Type L52 B) socket (Tab. 21. 5-6).

SLIGHTLY LEAF-SHAPED SPEARHEADS (SLS)

This category is characterized by the maximum width that is closer to the half of the length of the blade, distinguishing it from both the lanceolate and the proper leaf-shaped category

- Slightly leaf-shaped spearheads with rhomboidal blade (I Group): this group is represented by only one particular spearheads from north-eastern Italy (Trentino-Alto Adige/Südtirol). It is assigned to the Recent Bronze Age on the basis of the typical characteristic of the blade, that narrows at a point where the socket and the blade conjoin (cf. Type L29 C, L32). This feature has an exact counterparts in spearheads contained in some Hungarian hoards. The spearhead shows three deep grooves on the midrib and a single rib above the mouth of the socket (Type SLS1)(Tab. 22.1 ).
• Slightly leaf-shaped spearheads with sub-triangular blade and rounded base (II.B Group): a conspicuous number of small spearheads with large blade has been gathered under the same type (Type SLS3) and subsequently divided in four sub-types (A-D). Although they are very similar as far as the blade is concerned, the socket is different in each category: short and conic (A) (Tab. 22.2); medium-sized and conic (B) (Tab. 22.3); short and cylindrical (C) (Tab. 22.4) and long and cylindrical (D) (Tab. 22.5). These four sub-types can be also attributed to different phases of the Bronze Age: the spearheads included in the sub-type B and C can be attributed to the earlier phases of the Middle Bronze Age and they were mainly found in lake-villages; contrarily those in sub-types A and D can be assigned to the end of the Middle Bronze Age and they mainly refer to terramare sites and settlements in north-eastern Italy (apart from one spearhead from the Oggiono-Ello hoard: 32).

Type SLS2 is characterized by small/medium pieces with a narrow blade and a medium-sized conical socket, which can be attributed to the end of the Middle Bronze Age (Tab. 22.6). Spears with these characteristic are also attested in the course of the Final Bronze Age: small specimens with narrow blade, flat midrib and a long and conical socket (Unicum SLS4) (Tab. 23.1).

• Slightly leaf-shaped spearheads with a slightly flamed blade (III Group): the only Recent Bronze Age type included in this group is represented by a spearhead with a flat midrib and two deep groves above the mouth of the socket. It was probably subjected to extensive reworking in the tip area. Therefore, its attribution to slightly leaf-shaped spearheads on the basis of the point of the maximum width : total length of the blade ratio remains hypothetical (Type SLS5 A) (Tab. 23.2).

Two Final Bronze Age types have been included in this group: Type SLS6, represented by spearheads with narrow blade and a medium-sized conical socket (Tab. 23.4) and Type SLS5 B. As for the latter, its long socket distinguishes this piece from Type SLS6; in contrast, it offer a good parallel for the Recent Bronze Age Type SLS5 A (Tab. 23.3).

• Slightly leaf-shaped spearheads with a not-markedly distinct blade and convergent edges (V. A Group): only one type, assigned to the end of the Middle Bronze Age, has been gathered under this class. The spearheads are characterized by a narrow blade and a short and cylindrical socket (Type SLS7 A) (Tab. 24.1). Another group of
spearheads shows very similar characteristics, but unfortunately the worn blades do not allow a better typological attribution (Type SLS7 B) (Tab. 24.2). However, also considering the fact that the blade may have been narrower than those in Type SLS7 A, the close link between the two sub-types cannot be neglected. The mould for spearheads from the terramara of Casinalbo (10) (Type SLS7 A), assigned to the end of the Middle Bronze Age and to its overlap with the following phases of the Recent Bronze Age, shows a stepped blade (a typical feature which will be very common in the following phase of the Recent Bronze Age.

The main type attested in the following phase of the Recent Bronze Age is represented by a conspicuous number of spearheads is contained in the Pila del Brancòn hoard (92). By and large, the great majority of them is localized in northern Italy and mainly in hoards, but also settlements. Although minor variations (i.e. the overall length of the blade, different sections of the midrib), all the spearheads included in this type (Type SLS8) show similar features: convergent edges and stepped blade; the socket is always very short and cylindrical. Type SLS8 included also a spearhead attributed to the early phase of the Final Bronze Age (Malpensa hoard: 158) (Tab. 24.3) and another one, assigned to a later moment of the Final Bronze Age (Tomb of Via Gorio: 190). Accordingly, it is possible to suggest that this type of spearheads covers a wide chronological range, which spans from the Recent Bronze Age up to the earlier phases of the Final Bronze Age. Type SLS10 A-B is characterized by spearheads with large blade and short socket. They are very similar to those in Type SLS8, though smaller in size. This type has been divided in two sub-types (Tab. 25.1-3). In particular Type SLS10 B (Tab. 25.1-2) is represented by two similar spearheads. Although these two specimens were deposited in two distant place, respectively in the Pertosa cave (89) and under the wall of a structure in the settlement of Coppa Nevigata (64) (Cazzella and Moscoloni 1998), they are both imbued with symbolic value.

The specimens attributed to the Final Bronze Age are few and they can be described as follows:

- Spearhead with narrow blade and a long and cylindrical socket (Unicum SLS11) (Tab. 25.4);
- Spearhead with narrow blade, flat midrib and a medium-sized and cylindrical socket (Unicum SLS12) (Tab. 25.5);
- Two decorated spearheads with narrow blade, flat midrib (in one case), and a medium-sized conical socket (Type SLS13). One of the spearheads has a decoration on the
socket consisting of bands of incised lines delimited by rows of circumscribed arcs. A triangular motif is evident at a point where the blade and the socket conjoin. Three engraved lines run parallel to the cutting edges (Tab. 25.6). This decoration is closely linked to that of the flamed spearhead from Luino (Type L36 β).

**LEAF-SHAPED SPEARHEADS (LS)**

This category is characterized by the maximum width of the blade that corresponds to or is above the half of the blade.

Leaf-shaped spearheads with a not-markedly distinct blade and convex edges (V.B Group): the first examples of leaf-shaped spearheads made their appearance in the course of the Recent Bronze Age. The majority of the types included in this category has a narrow blade and a short socket. (Type LS1, LS1 α) (Tab. 26.1-2). Although they do not have a stepped blade, all these specimens are very similar to Type SLS 8. Small spearheads with long (Type LS2) (Tab. 26.3) or very long (Type LS3) (Tab. 26.4) socket are also attested in this period.

Some of the types assigned to the following period of the Final Bronze Age show a close link with the Recent Bronze Age types. For examples, Type LS4 and Unicum LS5 (Tab. 26.5-6), represented by medium spearheads with narrow blade and a long conical (Type LS4) or cylindrical (Unicum LS5) socket are very similar to those included in Type LS2. This may indicate that there are quite uniform designs, which continue to be attested across adjacent phases of the Bronze Age. The spearhead with large blade and a medium-sized cylindrical socket has been classified as Unicum LS6 (Tab. 27.1). It has been found in the Tomb 1927 in the cemetery of Oppido Mamertina (172). A similar spearhead has been found in a tomb at Kallithea (Greece), assigned to the Late Helladic III C (Avila 1983: n. 107). Type LS7 is represented by large spearheads, characterized by a narrow blade with small holes at its base, polygonal midrib and a short socket (Tab. 27.2). The last type included in this group is constituted by peculiar spearheads with large blade, lenticular midrib with hexagonal section and a cylindrical socket (Type LS8) (Tab. 27.3). This characteristic type, assigned to the advanced phases of the Final Bronze Age, continues to be attested in the subsequent period of the Iron Age in the cemetery of Torre Galli (Calabria) (i.e. Tombs 99 and 120) (Pacciarelli 1999). This type has a restricted distribution in southern Italy and a punctual counterpart in the Albanian “Pazhok” type spearheads.
(cf. Lo Schiavo and Peroni 1979) (cf. tomb of Kelcýra, attributed to the twelve century on the basis of a Mycenaean sword: Bodinaku 1988: Fig.2).

**PROJECTILE**

This category is represented by only one specimen. The spearhead/projectile has been found in the lake-village of Peschiera – Imboccatura del Mincio (39). It belongs to a type which is unknown in the Italian Bronze Age, at least up to now. However, a parallel can be drawn with two spearheads from a cist grave at Volos (Iolkos) (Avila 1983: 15, no. 29) and from Schimatari (?) (Thebes), whose context of recovery is unfortunately unknown (*ibid.* 17, no. 33) (Appendix 2: Fig. XX). Avila assigned the two specimens respectively to the *Späthelladisch III A* (no. 29) (end of the Middle Bronze Age – early Recent Bronze Age) and to a generic *Späthelladisch I and II* (no. 33) which would correspond to a period including the whole Italian Middle Bronze Age. While some morphological characteristics clearly diverge from the piece here considered (section of midrib and socket), however the general design is similar. Considering the aforementioned considerations, it is possible to assign the spearhead from the “Imboccatura del Mincio” pile-dwelling to the Middle Bronze age or perhaps to a later period ranging from the end of the Middle Bronze Age to an early phase of the Recent Bronze Age.
References for the drawings are given in Appendix 1.

All the photographs presented in this Appendix refer to the spearheads selected for edge-wear analyses (Appendix 2).

Table 1 is placed in the pocket on the back inside cover of this volume

Scale drawing 1:3
Lanceolate (L)

I. Group

TYPE L1

1. Vivenne (TO). Lake village

TYPE L2

2. Tintoria Comense (CO). Tomb

II. A Group

TYPE L3A

3. Cascina Ranza (MI). Hoard

TYPE L3B

4. Avigliana (TO). Hoard

TABLE 2
II. A Group

Lanciolate (L)

TYPE L4

1. Palazzo - Cologno al Serio (BG). Tomb

TYPE L5


TYPE L6

3. Pieve San Giacomo (CR). Settlement

TYPE L7

4. Oggio-Etto (LC). Deposition in a rock fissure

TYPE L8

5. Scoglio del Tonno (TA). Settlement

TABLE 3
Lanceolate (L)

II. A Group

TYPE L9

1. Casaraldo di Sambosio (PR).
   Terramara

TYPE L10

2. Rodù (MO).
   Terramara

TYPE L11

   A. Appendix 2: 6/1.
   Photograph by author
Lanceolate (L)

II. B Group

TYPE L12

1. Cascina Ranza (MI). Hoard
2. Gesso stream-Cuneo (CN).

TYPE L13

3. Bodio Centrale (VA). Lake village
   B. Appendix 2: 2/2. Photograph by author
4. Peschiera - Bacino Marina (VR). Lake village
   Appendix 2: 24/4. Photograph by author

TABLE 5
**Lanceolate (L)**

H. B Group

**TYPE L:14**

1. Peschiera (VR), Lake Village

**TYPE L:15**

2. Castioni dei Marchesi (PR), Terramara

**TYPE L:16 A**

3. Casaroldo di Samboseto (PR), Terramara

4-5. Santa Rosa di Poviglio (RE), Terramara

Appendix 2: 18/1-2.
Photograph by author
Scale drawing 1:1

*TABLE 6*
Lanceolate (L)

II. B Group

TYPE L16 B

1. Oggiono-Ello (L.C).
   Heard

   Settlement.
   Appendix 2: 28/1.
   Photograph by autor

TYPE L17 A

Near Fucino (AQ).

TYPE L17 B

Pila del Brancón (VR).
Hoard

TABLE 7
Lanceolate (L)

II. B Group

UNICUM L18

1. Trento (TN)
   From river (?)

UNICUM L19

2. Lipari (ME)
   Hoard

UNICUM L20

3. Lipari (ME)
   Hoard

TYPE 21 A

4. Limone (L.I.)
   Hoard

TYPE 21 A α

5. Monreale (CO)
   Tomb

TABLE 8
Lanceolate (L)

II. B Group

TYPE L 21 B

1. Monte Primo (MC). Hoard

TYPE L 21 B ε

2. Poggio Berni (RM). Hoard

TYPE L 21 D


TYPE L 21 C

4. Pertosa Cave (SA). Vetive deposition

TABLE 9
III. Group

1. Isolone del Mincio (MN).  
Lake village

2. Bodio Centrale (VA).  
Lake village

UNICUM L 23

Unknown provenance

4. Bacchiglione River (PD)

TABLE 10
Lanceolate (L)

IV. Group

TYPE 25

1. "Southern Italy" hoards

TYPE 26

4. Boccazzola Vecchia di Poggio Rasco (MN). Termumam

TYPE 27


TABLE 11
**Lanceolate (L)**

**IV. Group**

1. Pila del Brancón (VR), Hoard
   - TYPE 29 A

2. "near Lake Ledro" (TN).
   - TYPE L28

3. Trento (TN)
   - TYPE L29 B

   - TYPE L29 C

**TABLE 12**
LANCEOLATE (L)

IV. Group

TYPE L.30

1. Ortucho (AQ)

TYPE L.29 A

2. Pila del Branco (YR).
   Hoard

TYPE L.31

3. Castillaro Laguse (MN).
   Settlement

TYPE L.32

   Hoard

TABLE 13
IV. Group

Lanceolote (L)

TYPE L 32

1. Vinti (BZ)

TYPE L 35

2. Magliano dei Marsi (AQ)

TABLE 14
Lanceolate (L)

IV. Group

TYPE L 36

1. Manduria (PG). Hoard

TYPE L 36 γ

2. Luino (VA). Tomb

UNICUM 37

3. Contigliano (RI). Hoard

TYPE L 38

4. Pergine Valsugana (TN). Deposition in water

TABLE 15
IV. Group

1. Piediluco (TR). Hoard
2. Fucino (AQ). Hoard (?)
3. Goluzzo (SI). Hoard
4. Piediluco (TR). Hoard (Appendix 2: 38/36)
5. Piediluco (TR). Hoard (Appendix 2: 38/30)

TABLE 17
Lancolate (L)

IV. Group

TYPE L 41

1. Morano sul Po (AL).
   Tomb 2

V. A. Group

TYPE L 42

2. Bellaguarda (MN).
   Tomb

3. Mitropolis (Greece).
   Tomb
   (adapted from Avila 1982)

TABLE 18
Lanceolate (L)

V. A. Group

TYPE L 45

TYPE L 46 A

TYPE L 47

1. Este, Cimitero Maggiore (PD). Hoard or votive deposition (?)  
2. Gradisca sul Cosa (PN). Hoard  
3. Eppan/Appia no (BZ). Settlement

TABLE 20
TABLE 21
Slightly leaf-shaped spearheads (SLS)

I. Group

TYPE SLS 1

1. Povo (TN)

II. B. Group

TYPE SLS 3

2. Cantelmo di Ricengo (CR). Settlement?

3. Peschiera-Bacino Marina (VR). Lake village

3 D

4. Viverone (70). Lake village

5. Mass版 (VR). Appendix: 36/1. Photograph by author

6. Finilone Vallis. Settlement

TABLE 22
Slightly leaf-shaped spearheads (SLS)

II. B. Group

UNICUM SLS 4

1. Contigliano (Rh. Hoard)

II. Group

TYPE SLS 5A

2. Doss Trento (TN)

TYPE SLS 5B

(Appendix 2: 38/34, Fig. 313. Photograph by B. Toune)

UNICUM SLS 6

4. Mompanteca, Rifugio Cà d’Asti (AL)

TABLE 23
Slightly leaf-shaped spearheads (SLS)

IV. A. Group

TYPE SLS 7 A

1. Codemondo (RI). Terramara

TYPE SLS 7 B

2. Laas/Lasa (BZ). Deposition in river

TYPE SLS 8

3. Malpensa (VA). Hoard

TABLE 24
Slightly leaf-shaped spearheads (SLS)

IV. Group

TYPE SLS 10

10 A

1. Coppa Navigata (FG). Under the wall of a structure

10 B

2. Pertosa Cave (SA). Votive deposition. Appendix 2: 46/1. (Photograph by autor)

3. Pila del Broncón (VB). Hoard

UNICUM SLS 11

4. Trento (TN)

UNICUM SLS 12

5. "Southern Italy". Hoard

6. Ura/ Fié allo Sciliar (BZ). Deposition in hill top

TABLE 25
Leaf-shaped spearheads (LS)

IV. B. Group

TYPE LS 1

1. Cellina river (PN). Deposition in rivir.

TYPE LS 1 a


TYPE LS 2


TYPE LS 3

4. Valaverta, Ziano (TN)

TYPE LS 4

5. Introdacqua (AQ)

UNICUM LS 5

6. "Southern Italy". Hoard

TABLE 26
Leaf-shaped spearheads (SLS)

V. B. Group

UNICUM LS 6

TYPE LS 7

TYPE LS 8

1. Oppido Mamertina (RC). Tomb 1927
2. "Southern Italy". Hoard
3. Oppido Mamertina (RC). Tomb 2 (1929)

TABLE 27
1. Imboccatura del Mincio (VR).
   Lake village.
   Appendix 2: 25/1

TABLE 28
APPENDIX 2

EDGE-WEAR OBSERVATION

(TEXT AND PHOTOGRAPHS)

Appendix 2.3 is placed in the pocket on the back inside cover of this volume.
1. CASCINA RANZA HOARD (Milan – Lombardy)

**Current Location:** Civico Museo Archeologico of Milan (Castello Sforzesco).

**Date of find:** in different moments in 1887 the first body of material (ca. 30) and in 1889 the second group (22)

**Chronology:** Vannacci Lunazzi (1973) attributes the hoard at the Bz B2-C1 (MBA 2-3); De Marinis (1994:64) supported this chronology on the base of the axes of “Möhlin” and “Ilanz” type, Var. B (Bz B2-C1); Carancini and Peroni (1999) dated the hoard to the beginning of the Middle Bronze Age (MBA 1) on the basis of swords of “Spatzenhausen” and “Cascina Ranza” type.

**Context of find:** The hoard lay 1.50 m underground. It was deposited in a container on the bank of a paleo-tributary of the Olona river. According to the information given by Castelfranco (1888), the first body of metal objects (ca. 30) were found in a clay quarry. The author reported that the workers, lamenting the fact that they were neither precious metal nor ancient coins, damaged and broke part of the objects. Subsequently, the owners of the cave were able to recuperate all the artefacts and donate them to the Ing. Ippolito De Strani, who, in turn, gave them to Castelfranco. In the following days, Castelfranco, attempted an excavation in the place where the hoard was found and he retrieved four other objects: 2 axes, 1 spearhead and a stone axe (*eclogite*). The first list that the author drew up accounted for nine spearheads, thus limiting the number of spearhead supposedly damaged by workers to eight. Before the author completed the first report, De Strani brought him twenty-two other artefacts belonging to the same hoard. The second list accounted for 19 spearheads. The remaining artefacts were found subsequently in 1889 (Castelfranco 1889: 96). On that occasion, the objects were donated to the Museum of Brera.

**Contents:** The Vannacci Lunazzi’s publication of the hoard can be considered the most exhaustive. She included in the hoard the following objects: 32 spearheads, 18 axes, swords (1 complete; 3 almost complete; 1 hilt and some fragments of blade), a stone axe and some pottery shards (coarse ware found together with the objects and polished ware found on the surface).

**Bibliography:** Castelfranco 1887-1888; Castelfranco 1889; Vannacci Lunazzi 1973.

**Note:** Castelfranco (1888: 145) affirmed that some objects were damaged by the workers, though making it very difficult to discern from ancient and modern damage.
However, the objects which are supposed to have been subject to modern damage should be only some of those included in his first report.
Examination of the spearheads:

1/1 (A17871)

Description: decorated sub-triangular socketed spearhead. Complete with some damage.
Dimensions: length 175 mm; width (maximum) 35 mm.
Patina: grey-green with some lighter green patches. Heavy corrosion.
Manufacture: the spear appear polished and well finished. Grinding marks are evident on the surface of the blade and in particular where the blade and the midrib conjoin. A slight bevel is visible on both the edges (Fig. A.2 ), but not near the tip; on the other side (not illustrated) it is more visible on the left edge. The casting seams have been removed. The piece appears well finished. Decoration is apparent around the base of the socket, comprising a band of three incisions, which are surmounted by upside down bows (Appendix 1.1: Type 3A). This decoration is widely attested in the north-eastern part of the Carpathian basin, Bavaria and Switzerland.
Use: EDGES: both the edges are “nibbled”. The process of the corrosion in this case may have eroded the edges, obscuring their original condition. However, the edges show an isolated notch at the left angle of the blade, that may be use-related (Fig. A.1). However, due to the nature of the hoard, where most of the objects seems to be intentionally destroyed, it is difficult to distinguish between use-related and intentional damage.
SOCKET: the metal appears stretched inward at the mouth of the socket and it may have resulted from securing the wooden shaft to it.
Other marks: SOCKET: above the mouth of the socket there is a void (ca. length: 200 mm; width: 100 mm); the same evidence occurs on other spearheads. It may be possible that the the corrosion acted and developed fast on portion of the metal already damaged, ultimately breaking the metal. Another option may be that it advanced faster on portions of the spearhead already weakened by previous damage (perhaps also hammering). At least in this case, the original damage may have perhaps resulted from the removal of the wooden shaft, forcing it at an awkward angle.

1/2 (A21214)
Description: Decorated sub-triangular socketed spearhead. Incomplete with tip and one edge missing.

Dimensions: Length (maximum) 130 mm.

Patina: grey-green. Lighter green patches of heavy corrosion.

Manufacture: EDGES: a faint bevel is intermittently visible on the surviving edge (Fig. A.3). The flaking corrosion may have partially obscured the original condition. The casting seams have been removed. Grinding marks run down the length of the blade. Despite the corrosion, the rest of the surface appears polished and smooth.

SOCKET: The piece appeared well finished and the socket remains in fine condition. Decoration is apparent around the base of the socket (see above 1/1).

Use: according to the evidence of the surviving edge, it seems that the corrosion has eroded an originally undamaged edge. No other evidence is available.

Other marks: BLADE: one edge of the blade is missing. It is likely that the damage was deliberately inflicted in antiquity as no fresh metal is evident (Fig. A.4).

1/3 (A21242)

Description: Decorated sub-triangular socketed spearhead. Incomplete with part of the tip and one edge missing (Fig. A.5).

Dimensions: Length (maximum) 95 mm; width (maximum) 31 mm.

Patina: dark green. Heavy corrosion.

Manufacture: SOCKET: the casting seams have been removed. Decoration is apparent around the base of the socket (see above 1/1) and the corrosion has partially obscured it.

Use: EDGES: impossible to determine: the surviving edges are too small and they do not show any use-related marks.

SOCKET: the mouth of the socket is slightly flattened and crushed. The damage may have occurred during use or in the attempt to secure it to the shaft. However, damage caused by the the removal of the wooden shaft cannot be ruled out.

Other marks: EDGES: near the upper break the midrib seems slightly flattened. The right edge is cracked over the length of the blade at the junction between the blade and the midrib.

1/4 (A21215)
**Description:** Decorated sub-triangular (?) socketed spearhead. Incomplete with part of the tip and both the edges missing.

**Dimensions:** Length (maximum) 135 mm.

**Patina:** dark olive. Heavy corrosion.

**Manufacture:** casting seams have been removed. Decoration is apparent around the base of the socket (see above 1/1). It is partially obscured by corrosion. Despite the corrosion, the rest of the surface appears polished and smooth.

**Use:** impossible to determine.

**Other marks:** EDGES: both the edges have been cut away. It may have been done purposefully, though the corrosion may have exaggerated the original condition of the blade. There are two vertical striations on the surviving portion of the right edge. However, they may be related to post-depositional damage, as they seem to cut through the patina (Fig. A.6)

1/5 (A21246)

**Description:** decorated sub-triangular (?) socketed spearhead. Incomplete with part of the tip and both the edges missing.

**Dimensions:** length (maximum) 145 mm.

**Patina:** grey-green with some lighter green and brownish patches, especially towards the socket. Heavy corrosion.

**Manufacture:** the casting seams have been removed. Decoration is apparent around the base of the socket (see above 1/1). On one side of the socket vertical incisions are evident, but not the upside down bows. The corrosion might have obliterated the decoration as also the horizontal band around the mouth of the socket is not clearly evident (Fig. A.8). No other evidence appears to be related to this process.

**Use:** impossible to determine.

**Other marks:** SOCKET: the socket is flattened and distorted near its mouth (Fig. A 8). A crack is also evident. It may be that all these damage occurred together during the removal of the wooden shaft, though deliberate damage cannot be ruled out. EDGES: both the edges and the tip appear deliberately cut away (Fig. A.7). A vertical score is evident on the midrib at the junction with the blade and it may resulted from finishing or maintaining works.
**1/6 (A21216)**

*Description:* decorated sub-triangular socketed spearhead. Two joined pieces; almost complete with part of the left edge missing (Fig. A.9). They are not glued together and the tip does not have an inventory number.

*Dimensions:* length (maximum) 190 mm.

*Patina:* grey-green unevenly distributed on the surface. Heavy corrosion.

*Manufacture:* the casting seams have been removed. Vertical grinding marks are visible at the right edges of the blade over its length (Fig. A.10). A bevel is visible at the right edge of the blade over its length, a part from the tip (not illustrated). Decoration is apparent around the base of the socket (see above 1/1). It seems important to note the omission of the upside down bows.

*Use:* EDGES: the cutting edges seem to be eroded by the corrosion. On the left edge, two notches are evident and they might indicate a possible use-related damage.

*Other marks:* EDGES: part of the left edge is missing and it may be intentional (Fig. A.9). There is not evidence of hammer indents at the breaking point. Part of the wooden shaft is still in the tip. It may be that the damage around the mouth of the socket as well as the two parallel cracks close to the tip, occurred during the removal of the wooden shaft (perhaps piercing the spearhead in the ground and forcing the wooden shaft at an awkward angle).

**1/7 (A21251)**

*Description:* decorated sub-triangular (?) socketed spearhead. Incomplete with part of the tip and both the edges missing (Fig. A.11).

*Dimensions:* length (maximum) 150 mm.

*Patina:* light green unevenly distributed over the surface. Rough surface. Heavy corrosion.

*Manufacture:* the casting seams have been removed. Decoration is apparent around the base of the socket, comprising two bands of eight incisions. No other evidence appears to be related to this process. The tip is broken.

*Use:* it is not possible to determine any use-related damage due to the state of the blade.
1/8 (A21250)

Description: decorated sub-triangular (?) socketed spearhead. Incomplete with part of the tip and both the edges missing. Heavily damaged.

Dimensions: length 116 mm.

Patina: grey-green. Heavy corrosion.

Manufacture: The casting seams have been removed. The piece appears well finished. Decoration is apparent around the base of the socket (see above 1/1). Despite the corrosion, the rest of the surface appears polished and smooth.

Use: EDGES: it is not possible to determine any use-related damage due to the state of the blade.

Other marks: the piece with part of the tip and both the edges missing may have been intentionally damaged (see above 1/5). Nevertheless, hammer indentation are not evident, but they may have been inflicted beyond the extent of the surviving piece.

SOCKET: The socket appears damaged around the mouth and it is cracked over its length (Fig. A.12). The void and the vertical crack along the socket may be related to the intentional removal of the wooden shaft, though other interpretation cannot ruled out.

1/9 (A21240)

Description: Decorated sub-triangular socketed spearhead. Incomplete with part of the tip and one edge missing.

Dimensions: Length (maximum) 102 mm.

Patina: dark green. Heavy corrosion.

Manufacture: The casting seams have been removed. Despite the corrosion, the rest of the surface appears polished and smooth.

SOCKET: Decoration is apparent around the base of the socket, comprising only vertical incisions.

Use: SOCKET: part of the socket is broken and no hammer indents can be seen.

Furthermore, the decoration seems to be cut away, as it is still evident in section at
the mouth of the socket. It may be that the spearhead was used after being reworked (Fig. A.13).

**BLADE:** the surviving cutting edge is battered over its length and two chips are evident at the base of the surviving edge.

**Other marks:** one of the blade edge and the tip may have been intentionally cut away (see above 1/5 and also 1/2).

1/10 (A21213)

**Description:** Decorated sub-triangular socketed spearhead. Incomplete with the tip and part of the edges missing.

**Dimensions:** Length (maximum) 145 mm.

**Patina:** rough dark green with lighter green patches. Heavy corrosion.

**Manufacture:** ENDS the surviving blade edge is bevelled (Fig. A.14).

**SOCKET:** the casting seams have been removed. Decoration is apparent around the base of the socket (see above 1/1).

**Use:** ENDS: the left edge is nibbled and it may be due to the corrosion, that eroded an originally sharpened edge; a chip is visible at the base of the blade. Particular use-related marks are not evident on the surviving cutting edges.

**Other marks:** one edge is missing, and it may have been intentionally cut away (see above 1/2 and 1/6).

1/11 (A21210)

**Description:** Decorated sub-triangular (?) socketed spearhead. Incomplete with part of the tip and both the edges missing (Fig. A.15).

**Dimensions:** Length (maximum) 148 mm.

**Patina:** rough dark green with lighter green patches. Heavy corrosion.

**Manufacture:** SOCKET: the casting seams have been removed and the socket seems in good condition. Decoration is apparent around the base of the socket (see above 1/1 for parallels).

**Use:** impossible to determine.

**Other marks:** as in the other cases examined so far, there is the possibility that the edges have been deliberately cut away (see above 1/5).
1/12 (A21254)

**Description:** leaf-shaped socketed spearhead. Incomplete with part of the tip and part of the socket missing.

**Dimensions:** Length (maximum) 130 mm; width (maximum) 30 mm.

**Patina:** rough dark green with lighter green patches. Heavy corrosion.

**Manufacture:** the casting seams have been removed. A bevel is still evident on the left edge (Fig. A.16).

**Use:** EDGES: two chips are evident on the left edge: at the base of it and in its central portion. The other edge appears eroded by corrosion.

SOCKET: damage is evident at its mouth.

**Other marks:** part of the wooden shaft is found in the socket. It may be that the shaft was removed before the spearhead were deposited into the container. This is a supposition which anyway does not rule out use-related damage prior to deposition. The tip is broken (see above 1/05).

1/13 (A21212)

**Description:** decorated socketed spearhead. Almost complete with part of the socket missing. The spearhead here considered was published without decoration (Vannacci Lunazzi 1973, Fig. 1.13).

**Dimensions:** Length (maximum) 168 mm.

**Patina:** rough dark green with lighter green patches. Heavy corrosion.

**Manufacture:** the casting seams have been removed. The decoration consists of converging incisions, forming a triangle, and dashes at the right angle to the length of the converging lines, repeated in three (still in place) concentric bands around the socket. The decoration does not seem well-finished.

**Use:** both the edges are very worn and the original form of the blade has been altered (Fig. A.17). Repeated resharpening may account for this.

SOCKET: it is broken at the mouth and this may be due to a use-related damage.

**Other marks:** no evidence can be related with other activities.

1/14 (A21209)
Description: decorated socketed spearhead. Almost complete with some damage near the tip.

Dimensions: Length (maximum) 170 mm.


Manufacture: the casting seams have been removed. Decoration is apparent around the base of the socket (see above 1/1). There is no evidence of vertical incisions, which are a characteristic feature of this kind of decoration.

Use: EDGES: both the cutting edges are bowed at different points over their length (Fig. A.18). The uppermost part of the tip is distorted and the midrib (ca 200 mm downwards from the tip) is cracked (Fig. A.19). It is likely that the spearhead struck against a hard material and failed to penetrate. As a result, the impact caused the bending of the tip, which however did not break off. Subsequently, it might be that the tip was straightened by pulling, as hammer indents are not evident on the opposite side (Fig. A.20).

SOCKET: the mouth of the socket is damaged and it may be due to a use-related activity.

Other marks: although it cannot be ascertained through visual examination, it is possible that the spear withstood fire, as the evidence of the tip, the texture of the metal and the small bows on the cutting edges seem to indicate.

1/15 (A21255)

Description: socketed spearhead. Incomplete with both the edges and the socket missing.

Dimensions: length 169 mm.

Patina: dark green with some lighter green patches. Heavy corrosion.

Manufacture: impossible to determine.

Use: impossible to determine due to the poor condition of the piece (Fig. A.21). There is a longitudinal break, which runs over the midrib, but it cannot be accounted for.

Other marks: as in the other cases examined so far, there is the possibility that the edges have been deliberately cut away (see above 1/5).

1/16 (A21252)
**Description:** undecorated socketed spearhead. Complete, though some damage at the cutting edges.

**Dimensions:** length 146 mm.

**Patina:** dark green. Heavy corrosion.

**Manufacture:** the casting seams have been removed. The bronze rivet is still in place and part of the wooden shaft is found in the socket. The rivet is hammered at both ends (Fig. A.22).

**Use:** impossible to determine due to the poor condition of the blade.

**Other marks:** the socket is slightly damaged. It may be due to the removal of the wooden shaft prior to deposition, though a use-related damage cannot be ruled out.

1/17 (A21245)

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**Description:** undecorated socketed spearhead. Incomplete, with part of the tip missing.

**Dimensions:** length 130 mm.

**Patina:** dark green. Heavy corrosion.

**Manufacture:** the casting seams have been removed. No other evidence can be attributed to this process (Fig. A.23).

**Use:** impossible to determine due to the poor condition of the blade. The socket remains in a good condition.

**Other marks:** there is the possibility that the right edge have been deliberately cut away (see above 1/5).

1/18 (A21206)

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**Description:** decorated sub-triangular socketed spearhead. Incomplete, with the tip missing.

**Dimensions:** length 150 mm; width 36 mm.

**Patina:** grey-green. Heavy corrosion.

**Manufacture:** both the edges are bevelled on both sides (Fig. A.24). The casting seams have been removed. The piece appears polished and smoothed. The mouth of the socket was probably hammered against the shaft to make the spearhead more secure. Decoration is apparent around the base of the socket (see above 1/1).
Use: EDGES: both the edges are in a perfect state of conservation, even though there is a tiny chip occurring in isolation, which however represents a minor damage (Fig. A.25). It is likely that the spearhead was never or only slightly used.

Other marks: EDGES: part of the right edge and midrib are damaged (Fig. A.24), though the advanced corrosion may have exaggerated the extent of the damage. Some of the damage, perhaps, took place in antiquity, as there is no evidence of fresh metal at the breaks (Fig. A.26).

1/19 (A21243)

Description: decorated sub-triangular socketed spearhead. Incomplete, with the socket missing.

Dimensions: length (maximum) 98 mm; width 34 mm.

Patina: dark green. Heavy corrosion.

Manufacture: both the edges are bevelled (Fig. A.27). The surviving decoration is apparent on the right side of the midrib, near the lower break, comprising a band of three curved incisions.

Use: EDGES: both the edges are heavily battered and they appear notched and bowed over their length, though some damage may be the result of the corrosion built-up. The tip is blunt. The blade is bent; cracks are evident where the metal bends.

Other marks: there are no hammer indents in association with the lower break. The bending may be interpreted as use-related damage, but it not possible to exclude other interpretations. No additional evidence can be accounted for.

1/20 (A21238)

Description: undecorated socketed spearhead. Incomplete, with the socket, part of the tip and the left edge missing.

Dimensions: length (maximum) 77 mm.

Patina: dark green with some lighter patches. Heavy corrosion.

Manufacture: impossible to determine.

Use: EDGES: no clear evidence is apparent on the surviving cutting edge; in those areas, where the corrosion build-up does not obscure the surface, the cutting edge seems smoothed (Fig. A.28). Part of the socket and part of the tip is broken away. This
damage can be use-related, though intentional breakage cannot be ruled out. However, no evidence can support the latter possibility.

**Other marks:** there is the possibility that one of the edge was deliberately cut away (see above 1/2).

1/21 (A21237)

**Description:** leaf-shaped socketed spearhead. Incomplete, with the socket missing.

**Dimensions:** length (maximum) 125 mm.

**Patina:** olive green with some brownish patches of thinner encrustations. Heavy corrosion (Fig. A.29, 30).

**Manufacture:** on the surviving edge there are some holes which may be casting flaws.

**Use:** EDGES: no clear evidence is apparent on the surviving cutting edge, due to the flaking of the corrosion products.

**Other marks:** the socket was broken away (Fig. .29). It may be intentional, though the corrosion build-up may have obscured any evidence. On the other hand, a use-related breackage cannot be ruled out. The edges have been cut away (see 1/5). There are a few scores running over the length of the surviving edge and they may be related to post-depositional damage as they cut through both the patina and corrosion. The wooden shaft is found in the midrib.

There are also some scores, which can be attributed to modern damage.

1/22 (A21253)

**Description:** decorated leaf-shaped (?) socketed spearhead. Almost complete, with part of the socket missing.

**Dimensions:** length (maximum) 183 mm.

**Patina:** rough olive green with some polished areas. Heavy corrosion.

**Manufacture:** the casting seams have been removed. Vertical grinding marks run down the length of the midrib (Fig. .32). There is no evidence of rivet holes on both sides of the socket. Only a not-finished hole is evident in the central part of the socket, but it does not pass through the metal and there is the possibility that it was not completely drilled (Fig. A.31). Decoration is evident at both the sides of the socket, consisting in two parallel incisions, forming an oval motif.
**Use:** EDGES: no clear evidence is apparent on the surviving cutting edge, due to the flaking of the corrosion products, which may have obscured the original condition of the cutting edges. In addition, any marks must be taken with caution: some of them may be related to modern damage as fresh metal is evident in some areas. In addition, in some points the breaks are not smoothed (Fig. A.32).

**Other marks:** the socket is damaged at the mouth of the socket and it may have occurred during the object’s life cycle, though a deliberate damage, due to the removal of the shaft, cannot be ruled out. Indeed, hammer indents are not evident near the break (Fig. A.31). It is interesting to note that the absence of rivet holes may speak in favour of a different way of securing the wooden shaft into the socket.

1/23 (A21241)

**Description:** decorated socketed spearhead. Incomplete, with part of the tip and both the edges missing.

**Dimensions:** length (maximum) 123 mm.

**Patina:** grey-green. Heavy corrosion, with some areas polished and smoothed.

**Manufacture:** the casting seams have been removed. The piece appears well finished, where the corrosion does not obscure the surface. Decoration is apparent around the base of the socket (see above 1/1).

**Use:** EDGES: cannot be determined, due to the poor condition of the piece. The socket shows some damage at its mouth. The mouth appears distorted, and it may have resulted from use, as clear hammer indents are not evident near the break (Fig. A.33, see red arrow). However, other interpretations cannot be ruled out. The area which was not subjected to damage is in fine condition.

**Other marks:** for the void on the socket see 1/1 for comparable examples.

1/24 (A21249)

**Description:** undecorated sub-triangular socketed spearhead. Almost complete, though there is some damage at the cutting edges.

**Dimensions:** length (maximum) 126 mm.

**Patina:** dark brownish with lighter green patches. Heavy corrosion.
**Manufacture:** the casting seams have been removed. Vertical grinding marks are apparent at the junction between the midrib and the edge as well as over the midrib.

**Use:** **EDGES:** the edges are heavily corroded and damage may have been obscured and/or exaggerated by the corrosion build-up (Fig. A.34). Nevertheless one of the edges has a serrated profile which supposedly can be use-related (Fig. 35A to be added).

**SOCKET:** part of the socket was cut away and this may be related to the repair of a previous damage. The damage around the its mouth may be use-related.

**Other marks:** Some chips at the base of the cutting edge may be the result of modern damage as fresh metal is evident in section (Fig. A.35).

1/25 (A21207)

**Description:** undecorated socketed spearhead. Complete with some damage.

**Dimensions:** length 228 mm.

**Patina:** dark green. Heavy corrosion (Fig. A.36).

**Manufacture:** there is an area near the tip with some holes which may be related to casting flaws (Fig. A.36).

**Use:** **EDGES:** no useful indication: the original condition of both cutting edges seems to have been obscured either by the carrion build-up and by modern damage.

**SOCKET:** one of the rivet holes seems to be strained through use (Fig. A.37). The wooden shaft is found in the socket.

**Other marks:** the left edge, though heavily corroded, shows a longitudinal breakage which seems inconsistent with use; it may be related to deliberate damage.

1/26 (A21248)

**Description:** undecorated socketed spearhead. Incomplete with part of the tip and both the cutting edges missing.

**Dimensions:** length (maximum) 135 mm.

**Patina:** grey-green with some lighter green patches. Heavy corrosion.

**Manufacture:** the casting seams have been removed and the piece appears polished and smoothed where the corrosion did not damage the surface.

**Use:** no useful indication.
Other marks: at a point half way up the length of the surviving fragment, between the base of the blade and socket, there is a large void (Fig. A.38) (for comparable example see 1/1). Minor damage is evident at the mouth of the socket.

BLADE: the cutting edges have been cut away. A fragment of the edge is bent and stuck to the midrib, probably due to post-depositional processes. In addition, it is likely that the portion of the edge attached to the midrib was originally longer, as the lighter patch which run parallel to the length of the midrib, may indicate (Fig. A.39).

1/27 (A21208)

Description: undecorated leaf-shaped (?) socketed spearhead. Complete with some damage at the base of the edges (Fig. A.40).

Dimensions: length 175  mm; width (maximum) 35 mm.

Patina: dark green with some lighter green patches. Heavy corrosion.

Manufacture: no useful indication.

Use: EDGES: no useful information.

SOCKET: the mouth of the socket appears damaged around its circumference and it may be use-related, however, it may also be damage which occurred before deposition (perhaps the removal of the wooden shaft ?)

Other marks: BLADE: damage is evident at the base of the edges.

SOCKET: one of the rivet holes was blocked during conservation treatments.

1/28 (A21211)

Description: undecorated leaf-shaped (?) socketed spearhead. Complete with some damage at the base of the edges.

Dimensions: length 178  mm.

Patina: grey-green with some lighter green patches. Heavy corrosion.

Manufacture: grinding marks are evident over the midrib and the surviving surface of the edges. Decoration is apparent around the base of the socket (see above 1/1) (Fig. A.43).

Use: BLADE: corrosion has eroded the edges (Fig. A.41). No further use-related evidence can be identified.
**Other marks:** BLADE: damage is evident at the base of the edges (see above 1/25, 1/27) (Fig. A.42).

SOCKET: the socket is crushed. The damage may be intentional and relate to the removal of the wooden shaft. The corrosion may have enlarged the area already damaged (Fig. A.43).

1/29 (A21244)

**Description:** socketed spearhead. Incomplete with the tip, the socket and the edges missing.

**Dimensions:** length (maximum) 90 mm.

**Patina:** dark green with some lighter green spots. Patches of corrosion over the length of the midrib.

**Manufacture:** no useful indication.

**Use:** no useful indication.

**Other marks:** one of the edge has been cut away (see 1/2 for a comparable example)(Fig. A.44). Part of the blade and the socket are missing. The damage may be intentional, though other interpretations cannot be ruled out (i.e. the breakage may have occurred during the object’s life-cycle).

1/30 (A21239)

**Description:** decorated socketed spearhead. Incomplete with the tip and the edges missing.

**Dimensions:** length (maximum) 87 mm.

**Patina:** dark green with some lighter green spots. Heavy corrosion.

**Manufacture:** no useful indication.

**Use:** no useful indication.

**Other marks:** one edge was cut away (see above 1/2). The socket and the midrib show clear distortions. The socket is flattened and cracked (Fig. A.45). It is likely that the damage was intentionally inflicted.
Description: socketed spearhead. Incomplete with the tip and the socket missing and both the edges damaged.

Dimensions: length (maximum) 90 mm.

Patina: rough light green. Heavy corrosion.

Manufacture: no useful indication.

Use: no useful indication.

Other marks: some indents are apparent half the way up the length of the midrib, but no major distortions associated with this (Fig. A.46).
2. BODIO (Varese – Lombardy)

Current Location: Museo Civico Archeologico “Villa Mirabello” (Varese)

Date of find: Bodio Centrale or Monete was found in 1863 by Stoppani, De Mortillet and Desor

Chronology: Banchieri (1986) recognised different chronological phases which mostly rely upon the typological analysis of the material culture (mainly artefacts):

- Neolithic (5th millennium BC) – Middle Bronze Age (1700-1350 BC) with a peak in the Early Bronze Age (2300-1700 BC).
- Final Bronze Age (1200-950 BC).

Lorenzi (2006) attributed few artefacts recovered during recent surveys at Recent Bronze Age (1350-1150 BC)

Context of find: the Lake of Varese in the Varesine Prealps contains many important pile-dwellings which demonstrated that the lake shore was intensively inhabited in prehistory. At the beginning of the 19th century the area of the lake was slightly reduced in order to extend the arable soil, and some years later several lake villages were found. The site of Bodio Centrale was discovered in 1863 by Stoppani, De Mortillet and Desor and probably at the same time, the first archaeological investigations were conducted by Quaglia and Angelucci (Banchieri 1986: 11).

Marinoni (1868: 18-19) and Regazzoni (1878: 47) affirmed that three pile-dwelling villages were found at Bodio: Desor or Maresco, Keller or Gaggio and Centrale or Monete. Accordingly, it was called “Centrale” because of its position in the middle at approximately 800 m from the other two and at ca. 20 m off the shoreline.

Commenting on the structural elements of the Bodio Centrale village, Regazzoni (1878: 47) argued that the network of poles surrounded a raised spot of the lake bed, a “horse shoe” having a diameter of ca. 40 m. The author also mentioned the presence of pebbles. Toward the end of the 19th century (1875-1884) the site was subjected to further excavations (Banchieri 1986: 11) and subsequently in 1930 it was investigated by Bertone (Lorenzi 2006: 151). In recent years the Soprintendenza of Lombardy and the Cooperativa Archeosub Metamauco conducted some underwater surveys in order to define the total extension of the site (Lorenzi 2006). The results of the recent research demonstrated that the extension of the village (160 m x 70 m) appears to be considerably wider than was supposed at the time of the
discovery. The majority of the material recovered attested a long occupational period ranging from the Neolithic to the Middle Bronze age with a peak in the Early Bronze Age, thus confirming Banchieri’s previous examinations (1986: 27). On the contrary, very few artifacts can be attributed to the Recent and Final Bronze Age. At the same time, new surveys could also verify the distance between Bodio Centrale and Desor, which seems to be ca. 400 m.

**Materials:** Marinoni (1968: 20) noticed that the majority of the artefacts which characterized the pile-dwelling of Desor were mostly pottery and that this data should have been compared against the amount of flint arrowheads, blades, scrapers, axes, hammers and other similar tools found at Bodio Centrale. Banchieri (1986: 157) examined a vast array of material held in different Museums (Varese, Turin, Como, Milan and Rome) which was attributed to different phases of the Bronze Age. The bronze artefacts which characterize the Early Bronze age are: perforated globular-headed pins and disc-headed pins decorated with the technique of repoussage; daggers with triangular base, heart-shaped or rounded butt and two rivets; moulds for axes with broad semicircular cutting edges, very similar to those found in the “Lodigiano” hoard; a slightly flamed socketed spearhead decorated with a band of incision at the mouth of the socket. Few ceramic fragments are attributed at the Middle Bronze Age, mostly carinated bowls of the Isolone type. The Final Bronze Age is characterized by the only socketed spearhead (2/2) (Banchieri 1986).

On the basis of this data the author (*ibid.* 27) envisaged a flourishing community in the Early Bronze Age probably specialized in bronze working and connected with transalpine villages. A number of lake-sites were drastically abandoned in the Middle Bronze Age. Material remains are also scarcely attested for the subsequent period of the Late Bronze Age.

As for the spearheads, I was able to find useful information about only one of them (2/1). It was found in 1872 by Ranchet, who donated it to the “Museo Patrio” of Varese (Maggi 1874). Metallurgical analyses conducted on the specimen gave the following results: Cu: 88.50; Sn: 11.40; Other elements (traces): 0.10.

The spearhead was dredged at ca. 60 m off the actual shoreline of the lake, lying on a silty layer which contained pebbles and part of poles as well as flint arrowheads and axes, bones and ceramic shards. Maggi (*ibid.* 5) observed a different patina on the two sides of the spearhead and concluded that it laid flat with the side with
blackish patina downward and the side with calcareous encrustations upward in contact with the water. As for the chronology, I would consider the spearhead from Bodio Centrale as belonging to the beginning of Middle Bronze Age (MBA 1). Banchieri (1986:20) assigned the spearhead to the “Bagterb” type, widely attested in central Europe at the end of the Early Bronze Age and grouped by Jacob-Friesen (1967: 105) under the class of the “Sonderformen der Frühen Bronzezeit”. De Marinis (1991-1992: 35) attributed the spearhead from Bodio Centrale to an early phase of the Middle Bronze Age. In a recent work Vanzetti (1998) identified a moment between the end of the Early Bronze Age and the beginning of the Middle Bronze age (Bronze A2 c), which corresponds to the threshold of Middle Bronze Age in Italy.

**Bibliography:** Marinoni 1868; Maggi 1874; Regazzoni 1878; Banchieri 1986.

**Examination of the spearheads:**

2/1 (MV1001)

**Description:** Decorated slightly flamed socketed spearhead. Complete.

**Dimensions:** Length 205 mm; width (maximum) 58 mm.

**Patina:** one side shows a dense blackish-dark green patina; the other side shows a lighter green patina with some pale areas and calcareous encrustation. Limited patches of bronze are evident. Details reasonable.

**Manufacture:** SOCKET: the casting seams have been removed. Decoration is apparent around the socket, comprising two bands of four incisions and a line of hatches at the mouth of the socket (Fig. A.47). This type is widely attested in central Europe (Switzerland, Germany and Slovakia). The piece is beautifully finished. Interestingly, the little holes on the surface of the channel may indicate that the piece was cast in sand moulds (cf. Lowe Fri 2007: 50).

BLADE: on both side a faint bevel runs along the left edge, while it is less evident on the other edge (Fig. A.48). There is a difference in the thickness of the cutting edges which increase near the base. This evidence may indicate that a finer sharpening of the cutting edges involved only the remaining two quarters of the blade (Fig. A.49).

**Use:** BLADE: a small torn portion is evident at a point roughly halfway up the length of the blade (Fig. A.49), but it may be not associated with use-related damage.
**Other marks:** vertical striations are apparent, running down the length of the piece but those were probably not inflicted in antiquity as they seem to be superimposed upon the patina and encrustations (Fig. A.49).

2/2 (MV1002)

**Description:** socketed spearhead with converging edges. Incomplete with part of the tip missing.

**Dimensions:** Length (maximum) 207 mm; width (maximum) 35 mm.

**Patina:** thick blackish patina, showing light green patches where it was removed. Calcareous encrustations are also evident. Poor details.

**Manufacture:** no evidence relating to this process.

**Use:** SOCKET: it is in good condition.

BLADE: both the edges are heavily damaged, showing bowed areas (Fig. A.50) and deep cuts (one horizontal at roughly halfway up the length of the right edge, and a vertical one at the base of the left edge) (Fig. A.51-52). In addition, a distortion of the blade is also evident and at the upper break. No marks can be attributed to intentional damage (i.e. hammer indents) (Fig. A.53). The evidence may indicate that the spearhead was supposedly forced or deflected at an awkward angle, concurrently causing the distortions and the breakage of the tip. However, angled impacts or the use of spearheads in parrying a blow may split in favour of bowing and score marks (the latter missing) (Bridgeford 2000). The two edges are asymmetric and this may indicate that continuous resharpening have eventually altered the original profile of the blade.

**Other marks:** vertical striations are apparent, running down the length of the piece; they may not have been inflicted in antiquity as they cut through the patina (Fig. A.52).
3. **OGGIONO-ELLO (MULTIPLE DEPOSITIONS)** (Lecco – Lombardy)

**Current Location:** Museo Civico Archeologico “Paolo Giovio” (Como)

**Date of find:** objects were found in a span of time ranging from spring 1926 to winter 1927 during quarrying work.

**Chronology:** Vannacci Lunazzi (1973: 25) assigned the objects in the hoard to the Recent Bronze Age (1350-1150 BC) on the basis of the “Rixheim” type sword. The author, however, did not exclude an earlier phase attested by the daggers with trapezoidal butt and two rivet holes. Subsequently, a further work by De Marinis (1994: 59-70) reassessed the chronology of the hoard; the “Ello” type axes, Var. A, the “Ello” type sword and a “Veruno” type dagger can be attributed to a later phase of the Middle Bronze Age (MBA 3).

**Context of find:** Ghislanzoni (1929) gave the first information on the hoard some years after its discovery. Interestingly, the author published metallurgical analysis conducted on a selection of objects. One of the spears was found to contain: Cu (90.4); Sn (8.6); Pb (0.6).

However, his report was scarcely detailed and only recently De Marinis (1994), integrating the data of Ghislanzoni with other sources, published an exhaustive review of the hoard. The full assemblage, mostly weapons and a human bone (tibia) were found between 1926 and 1927 in a stone quarry 2 km away from Ello. It lay 60 cm underground in a rock fissure. At first, it was supposed that the metal artefacts might have represented grave goods due to the presence of human bones. Nevertheless, the composition of the assemblage and the context of find would reasonably hint to a hoard hidden in a rock fissure (De Marinis 1994). A later scholar (Frontini 2001:117) added further remarks, which partially contrasted with De Marinis’ conclusion. The fact that the metal objects and human (tibia and probably fragments of skulls) and animal bones were not found simultaneously, but at different depths in the ground, should not be imputed to post-depositional processes, rather it might indicate that the bronzes were being intentionally given up in a particular place in the land over an extended period of time.

**Contents:** The first body of objects recovered in place consisted of: a sword, two daggers, two axes, four spearheads, six fragments of bronze sheet and a human bone (tibia). Subsequently, a further bent sword and a helmet were retrieved and in 1930 all the
assemblage was given to the Archaeological Museum at Como, a part from one sword, the helmet, one dagger and one spearhead. While the helmet and the sword ultimately returned to the museum, the dagger, the larger spearhead (230 mm) and the human and animal bones were definitively lost. At present, the assemblage held in the Museum at Como comprises:

- 3 spearheads
- 2 axes
- 1 dagger
- 2 swords
- 1 helmet
- 10 bronze sheets

_Bibliography:_ Ghislanzoni 1929; Vannacci Lunazzi 1973; De Marinis 1994.

**Examination of the spearheads:**

3/1 (E17170)

**Description:** socketed spearhead with converging edges. Complete.

**Dimensions:** Length 187 mm; width 44 mm.

**Patina:** blackish patina with some shining green spots. Patches of bronze are evident.

Details reasonable.

**Manufacture:** the object appears well finished.

- _BLADE:_ both the edges are bevelled, though it is more apparent on one edge (right edge in Fig. A.54). Longitudinal grinding marks run down the length of the edges and the midrib. The edges appear sharpened, as finer oblique striations seem to indicate.

- _ SOCKET:_ it is in good condition.

**Use:** _BLADE:_ both the edges appear battered with chips and notches in place: close to the tip (both the edges) (Fig. A.55), and at one corner (left edge) (Fig. A.54). At approximately halfway up the length of the midrib a group of scores is evident (Fig. A.56) and they may have been inflicted in antiquity, as they are covered by the patina.

**Other marks:** no useful indication.
3/2 (E17171)

Description: leaf-shaped socketed spearhead. Two joined pieces.

Dimensions: Length 138 mm; width 41 mm.

Patina: blackish patina with some rough light green patches of encrustation. Poor details.

Manufacture: BLADE: where the surface is not corroded away, bevelled edges are evident (Fig. A.57). No other evidence can be related to this process.

Use: EDGES corrosion build-up has heavily obscured the edges, making it difficult to assess the original condition of the cutting edges. However, some notches and a small bowed portion are still in place: at the left angle and half way up the length of the blade on both sides (Fig. A.58, 59). A hole is evident at the junction between the midrib and the blade. It may have been caused by a loosely-attached shaft, which moving around, weakened and broke the metal there. Another possibility is that the hole may be attributable to an insufficient fill of molten metal in that part (Fig. A.57).

Other marks: there are no marks related to the break which separated the tip from the rest of the spearheads. The corrosion build-up shows continuity across the break and it may be possible that the separation of tip occurred after deposition (Fig. A.59).

3/3 (E17172)

Description: sub-triangular socketed spearhead. Two joined pieces.

Dimensions: Length 131 mm; width 30 mm.

Patina: blackish shining patina with limited rough light green patches of encrustation. Details visible.

Manufacture: BLADE: bevelled edges are apparent, though it is more evident on the right edge (Fig. A.60). A sharpened cutting edge occurs close to the base of the blade (right edge) (Fig. A.61). The piece appears well finished.

Use: BLADE: some minor damage are still in place: a notch in the tip area (Fig. A.62 ) and a chip close to the base of the blade on the right edge (Fig. A.62 B); they may be use-related. The tip is not pointed. In addition, the left edge (not illustrated) and the portion of the right edge above the base of the blade (Fig. A.61) appears resharpened. However, after being reworked, the spearhead has been slightly used, a part from the aforementioned chips and notches.
SOCKET: the socket is broken and its mouth is damaged (Fig. A.63). Damage may be use-related, though other causes such as the removal of the shaft prior to deposition, cannot be ruled out.

Other marks: part of the wooden shaft is still in the socket.
4. **SONCINO HOARD (Grandoppio – Cremona - Lombardy)**

**Current Location:** Civico Museo Archeologico of Milan (Castello Sforzesco).

**Date of find:** objects were found in 1892 during agricultural works.

**Chronology:** Castelfranco (1892: 111) assigned the assemblage between the end of the Final Bronze Age and threshold of the Iron Age ($10^{th} - 9^{th}$ century BC) and interpreted it as a pre-currency hoard, namely an *aerarium*. Recently Bianco-Peroni (1976: 52, no. 223) attributed the hoard to the Recent Bronze Age (1350-1200 BC) on the basis of a “Peshiera” type dagger.

**Context of find:** Castelfranco (1892) reported that he received some objects, which were found in Luigi Meroni’s field during agricultural works. Subsequently, the author conducted an excavation in the place of the discovery, which ascertained that the hoard avoided the area where settlements occurred. On that occasion he was able to retrieve the remaining objects. The whole assemblage (ca. 33 kg of metal) was deposited in a ceramic container at ca. 50 cm underground. Castelfranco (1892: 108) noticed that the bottom of one of the ingots had the impression of the spikelets of a particular plant which is generally known as *Poaceae* or *Gramineae*. The fact that it is widespread in the Po valley and that it ripens at the end of May, led the author to suppose a specific moment of the year for metallurgical activities.

**Contents:** The objects that Castelfranco obtained consisted of: one hundred-thirteen fragments of ingots broken in antiquity and two others almost complete; fragments of sickles; two fragments of daggers; two fragments of axes; a so called “copper hammered drop” (1892: 107); a fragment of a decorated metal sheet and a fragment of a belt-hook; a socketed arrowhead with rivet-holes and a socketed spearhead. At present, some of the bronzes are held in the Museum of Milan.

**Bibliography:** Castelfranco 1892; Bianco Peroni 1976.

**Examination of the spearheads:**

4/1 (A10634)
Description: sub-triangular socketed spearhead. Tip missing.

Dimensions: Length (maximum) 105 mm; width 35 mm.

Patina: rough brownish patina with light green patches. Limited patches of bronze are evident over the length of the midrib. Reasonable details.

Manufacture: the casting seams have been removed. No further details can be related to this process.

Use: BLADE: both the edges are heavily damaged, though the marks may not have been inflicted during the use-life of the object. No other information can aid in indicating possible use.

Other marks: BLADE: both the cutting edges show bowed and folded areas and jagged rips; the piece shows severe distortions (Fig. A.64). The bowed portion of the edge seems to be associated with hammering (Fig. A.65). Heavy hollow areas are evident on one side (Fig. A.65) and they may have been caused by a blunt object: two longitudinal hollows on the socket and two round hollow areas on the midrib. It is likely that the tip was broken through hammering: the channel near the upper break is flattened (Fig. A.65, 66).

SOCKET: the socket is flattened and hammer indentations are evident over its length (Fig. A.64, 65). I also suppose that the structure of the metal as it appear by the visual examination may indicate that the spearhead was probably heated, though only further metallographic analysis will confirm this supposition.
5. CANEGRATE CEMETERY (Milan - Lombardy)

**Current Location:** Civico Museo Archeologico of Milan (Castello Sforzesco).

**Date of find:** the first five tombs were found in 1926 during quarrying works. In 1952, the excavation of building foundations at “casa Colombo” led to the discovery of ca. twenty tombs. Rittatore Vonwiller conducted a series of archaeological excavations:

- 1953: ca. one hundred tombs published in *Sibrium*, vol. I, 1953-54
- 1954-1956: archaeological investigations were conducted in order to circumscribe the area of the cemetery; ca. sixty tombs were found on that occasion and they were published in *Sibrium*, vol. III, 1956-57.

The cemetery amounts to ca. two hundred tombs with approximately 60 per cent associated with the cremated bones of adults and the 40 per cent with young/young-adult individuals and children.

**Chronology:** the cemetery is generally attributed to the Recent Bronze Age (1350-1150 BC). Rittatore Vonwiller (1953-1954: 40) for the first time defined the Canegrate culture group as a new cultural “facies” between the Golasecca (Iron Age) and the north-western pile-dwelling culture groups (Middle Bronze Age, see Bodio Centrale above). Different arguments have been developed in recent years about the Canegrate culture group, but I shall limit myself to discuss briefly the two major interpretations. De Marinis (1998 a) deemed that the Canegrate culture group represented a break with the previous Scamozzina culture group on the basis of a different ceramic production which is now closely tied to that of the Urnfield groups. Accordingly, a change in the cremation rite, with the metal objects being placed to the pyres and deliberately broken, would have further supported his interpretation. Contrarily, Peroni (1996: 240-242) stressed the continuity between the two culture groups both in the way they live in their settlement and in the way they bury their dead. However, the author recognized a different “style” in the ceramic production, which would indicate connections with the transalpine area of the Urnfield culture group. The author refuted the hypothesis of a migration from north of the Alps, and suggested instead two “cultural corridors” connecting: Western Europe - north-western Italy (the Canegrate culture group) as well as the Danubian-Balkan region – north-eastern Italy.

**Structure of the tombs:** cremation cemetery. Urns containing burnt bones were deposited in pits. Pits can be simple or sometimes provided with a stone lined floor and wall.
Urns are generally covered by a stone slab or pebbles and not by the shallow bowl. Sometimes, the urn is simply inverted. Burials can contain the remains of more than one person. The dead were placed on pyres usually with metal objects (generally interpreted as personal possessions), which often show traces of the fire, though not always.

**Grave goods:** The urn containing the cremated bones is often accompanied by other smaller ceramic vessels. Metal grave goods include: daggers, a spearhead, swords, awls, bracelets, *torques*, belt-hooks, pins, earrings and beads. Interestingly, a small knife-dagger of “Voghera” type, Var. A (Bianco Peroni 1994: 170, no. 1674) was found in tomb 75, which contained the cremated bones of a female (Pearce 1998 a: 64) aged to ca. 20 years (Rittatore Vonwiller 1953-1954: 30-31). It has a tin content of 12.5 per cent (*ibid.* 35) and it was placed “as cast” in the tomb. Two fragments of swords and another bent and broken sword were found respectively in Tomb 6, 25 and 92. It may be worth noting that tomb 6 and tomb 92 were associated with the cremated bones of two very young individuals while tomb 25 contained the remains of two people aged to approximately 10 and 25 years old. According to metallographic analyses carried out by Cremascoli (*ibid.* 35) the tin content in the two fragments is ca. 10 per cent, making them functional for their use. At this regard Pearce (1998 a: 63) pointed out that the presence of swords in funerary contexts in western Lombardy, either in the area of the Scamozzina-Monza (late Middle Bronze Age-Recent Bronze Age) and Canegrate (Recent Bronze Age) culture groups, may still convey different meanings. The author noticed that the compositional data available for the swords of Scamozzina-Monza cultural group revealed a percentage of tin content (12.5-13 per cent) higher than that of the Canegrate samples. The author concluded that the swords in Scamozzina-Monza contexts may have been more symbolic than functional (1988: 64), though the association of swords with young individuals at Canagrate can equally bear particular meanings even if the sword at the moment of the interment still retains all the characteristic of a functional weapon.

**Tomb 110:** only one spearhead was found at Canagrate and it was published by Rittatore Vonwiller (1956-1957: 24, Tav. XIII). Tomb 110 consisted of a simple pit with a circle of pebbles in the centre. It contained among the scant quantity of cremated bones, six fragments of ceramic vessels and an incomplete leaf-shaped spearhead with convex edges, that laid flat with the tip towards north. Fragments of the twisted
socket were also found together with a fragment of what was interpreted as the “lattice handle of a knife-dagger”, which unfortunately the author did not publish. It seems worth noting that neither the drawing of the spearhead provided by the Archive of the “Civite Raccolte Archeologiche di Milano” reproduce the socket of the spearhead nor the typology of the daggers in the Prähistorische Bronzefunde volumes (Bianco Peroni 1994), mention the fragment of the knife-dagger found in the tomb. It may be possible that the pieces went lost after the recovery.

The cremated bones were attributed to an adult aged to approximately 25 years old. As for the spearhead, I think it is worth remaking that Rittatore Vonwiller (1953-1954: 38) reported that not all the objects from the Canegrate cemetery showed traced of fire. The knife-dagger of tomb 75, for example, was placed new in the tomb, while the sword of tomb 92 seemed to have withstood fire, as distortions of the blade and the edges may reasonably indicate. Describing Tomb 110, Rittatore Vonwiller (1956-1957: 24) mentioned a deformed fragment of a socket, without specifying whether it was caused by fire, and a blade of a spearhead, omitting any comments about its treatment. By the visual examination of the surface of the piece, I believe that the spearhead does not show the evident traces of an object placed on a funerary pyre (patina, distortions, texture etc.). The piece has a different patina on the two sides: brownish on one side and glossy black on the other side, with brownish patches near the base of the blade. The different patina may have resulted from the contact with different soils. Contrarily, it may be also explained with the placement of the blade flat, perhaps with one side in close contact with the hot ashes (?). At the same time, the brownish patches at the lower break may also indicate that the socket of the spearhead was separated from the blade by heating that portion of the spear (?). At present, these remain only suppositions, which needs further analyses.

**Bibliography:** Rittatore Vonwiller 1953-54, 1956-57.

**Examination of the spearhead:**

5/1 (ST80681)

**Description:** leaf-shaped socketed spearhead with convex edges. Incomplete with socket missing.
**Dimensions:** Length (maximum) 203 mm; width 50 mm.

**Patina:** on one side, glossy-blackish patina over the length of the blade, but not near the lower break, where a rough brownish patina is evident; brownish rough patina on the other side (Fig. A.67A, 67B, 68 red arrow). Light green spots, unevenly distributed over the surface. Details partially obscured.

**Manufacture:** a faint bevel on the edges and stepped blade are apparent over the length of the cutting edges on both sides, though the evidence is more visible on the side illustrated (Fig. A.68), where the surface of the blade appears smooth and polished. Longitudinal grinding marks run down the length of the surviving surface. Stepped blades will be common subsequently, as the Pila del Brancón hoard (Verona) seems to indicate (see below context n. 30). It is also probably the blade was sharpened.

**Use:** BLADE: the edges are eroded, so that use cannot judge with confidence (Fig. A.68). On one of the cutting edges a deep chip is evident (illustrated). The corrosion may have exaggerated the extent of an old damage, which however cannot be established with certainty.

**Other marks:** the separation of the socket from the rest of the blade seems to be intentional and the information provided by Rittatore Vonwiller (1956-1957) about fragments of a distorted socket matches with the evidence of the brownish patina near the lower break of the blade.
6. CA’ MORTA (Como - Lombardy)

**Current Location:** Museo Civico Archeologico “Paolo Giovio” (Como).

**Date of find:** the real extension of the cemetery cannot be estimated. Early findings date back to 1842 and they were attributed to the Golasecca culture group (Iron Age). A vast body of material was found during quarrying and construction works, though from 1955 a vast area of the cemetery was subjected to systematic archaeological excavations:
- 1955-65, Tomb 1-28 (Rittatore Vonwiller): Cava Gini, Cremona; Tomb 29-30: Cava Cattaneo; from Tomb 100 onwards: Cava Ballerini
- 1968-69, Tomb 232-242
- 1975-76, Tomb 243-299 (Rittatore Vonwiller). These investigations revealed that the cemetery was probably organized according to descendent groups, which increased over time and mixed together.

**Chronology:** Late Final Bronze Age – Protogolasecca (11th – 9th century BC) – Iron Age – Golasecca culture, which is divided for convenient reference into three part: Golasecca I (8th - 7th century BC), Golasecca II (early, middle, late: 6th-first decades 5th century BC); Golasecca III (early, middle; 5th – 4th century BC) (De Marinis, Premoli Silvia 1968-1969). All the spearheads considered here were found at different time in different areas of the cemetery and they can be attributed to the Final Bronze Age:
- Ca’ Morta, Tomb 292  (Final Bronze Age 2) (Colonna 2006)
- “Cava Manzoni”, Tomb (Final Bronze Age 2-3) (Bruno 2007: 95-97)
- “Cava Molteni”, Tomb (Final Bronze Age 3 – First Iron Age) (De Marinis 1970 a: 66)

**Structure of the tombs:** Ca’ Morta is a cremation cemetery. Tombs are mostly sexed on the base of grave-goods. There are no anthropological analyses for the tombs considered here. Cremated bones can be collected in:
- simple pits;
- simple pits covered by stone slabs;
- Urns surrounded by a circle of pebbles or stone slabs;
- Urns completely covered by stone slabs, forming a sort of cist or stone box;
- Urns covered by a shallow bowl or slab;
Presumably a barrow covered the tombs.  

**Grave-goods:** De Marinis (1978: 68-72) made a distinction between male and female assemblages attributed to the Final Bronze Age on the basis of the recurrence of particular association of objects:  
- Male: pins and brooches, pins and weapons (swords, spearheads, knives);  
- Female: only brooches; only pins; brooches and spindle whorls; brooches, bracelets or armils and pendants.

**Ca’ Morta, Tomb 292 (6/1):** tomb 292 was found in the area investigated in 1975-76. The remains of a male individual, accompanied by a broken and burnt sword, a spearhead, pins and fragments of earrings, were placed in an urn, which was placed in a pit with pebbles and covered by slabs (Fig. 1).  

Swords deposited in graves are very rare at the end of the Bronze Age, and the specimen considered here would represent the only example in northern Italy. Furthermore, this full-hilted sword with pommel consisting in metallic and organic discs does not have any parallel in Italy (De Marinis 1978: 73) (Fig. 1: A4). It may be attributed cautiously to swords of “Locras” type (HA A2) or “Forel” type (HA B1) (Bruno 2007: 251) (Fig. 1: B.1, 2). One of the pins can be assigned to the “Dreikopfnadel” class, which is widely attested in Switzerland in the late Final Bronze Age (HA A2 in Reinecke’s scheme) (De Marinis 1978: 73) or to the “Velenszentvid” type, Var. I (HA A2) (Bruno 2007: 251). The urn can be attributed to the same period (Colonna 2006: 173).

**Cava Manzoni Tomb (6/2):** a number of tombs were found in this area during quarrying works between 1921 and 1924. The objects in the graves have been mixed up and at present, there is no information about the original composition of the grave set. De Marinis and Premoli Silvia (1968-1969) revised all the material recovered during old excavations of the Ca’ Morta cemetery, held in the Museum at Como. The authors mentioned that the objects belonging to those graves were: the spearhead, brooches, awls and a ritual shovel.

**Cava Molteni Tomb (6/3):** in 1906 a tomb was recovered during the extraction of gravel and sand. At approximately one meter underground a worker found a series of pebbles, forming a sort of stone box. According to Magni (1910) it contained: ceramic vessels, which unfortunately were broken by the workers soon after the recovery, one spearhead and three pins. In addition, the author suspected that the objects were deliberately destroyed and damaged prior to deposition. His supposition
relies on the fact that the fragments of pins, which have a different patina, may have been scattered in the grave.

**Bibliography:** Magni 1910; De Marinis and Premoli Silvia 1968-1969; De Marinis 1970a; De Marinis 1978; Colonna 2006.

![FIG. 1](image)

**FIG. 1.** A: Ca’ Morta, Tomb 292: 1. spearhead; 2. pin; 3. urn; 4. sword. B: 1. Sword from the Gammertingen tomb, Baden-Württemberg; 2. Eddersheim (adapted from Bruno 2007: 406, tav. A14)

**Examination of the spearheads:**

6/1 (E4945)
Description: sub-triangular socketed spearhead. Joined pieces.

Dimensions: Length 215 mm; width (maximum) 54 mm.

Patina: thick dark-olive patina with limited areas of light green encrustations; some reddish patches showing under the patina. Details partially obscured.

Manufacture: the casting seams have been removed. Two incised lines run parallel to the cutting edges (Fig. A.69). No other useful indication can be related to this process.

Use: BLADE: the cutting edges appear battered and distorted over their length, though the fact that the spear was placed on the pyre may have partially obscured previous use-related damage. No other evidence can be related to the use-life of the object.

Other marks: probably the spearhead withstood fire. It is slightly bent (Fig. A.71) and broken in antiquity. The three pieces which constitute the spearhead have been glued together during conservation treatments. At the lower break, the blade has been intentionally crushed and distorted as also the evidence on the cutting edges seems to indicate (Fig. A.69, 70). The socket remains in a good condition.

6/2 (E18014)

Description: lanceolate socketed spearhead with round base. Complete with some damage.

Dimensions: Length 207 mm.

Patina: thick and rough dark-green patina; some reddish patches showing under the patina. Details obscured.

Manufacture: no useful indication can be related to this process.

Use: no use-related damage can be identified.

Other marks: BLADE: the spearhead may have withstood fire on the basis of the patina and the reddish colour of the bronze patches under it. In addition, it was heavily damaged. At a point between the blade and the socket, the midrib appears to have been crushed. This action may have caused the separation between the blade and the socket. Toward the upper part of the break, the midrib is slightly flattened and cracked (Fig. A.72), suggesting that the damage may have been inflicted by a blunt object. On the side of the break, the blade edges have been bent inward.

SOCKET: a longitudinal striation runs over the length of the socket but it seems to be a post-depositional mark, as it cut through the patina (Fig. A.73). Conservator treatments tried to repair the damage on the midrib.
Description: lanceolate socketed spearhead with convex edges. Complete with some damage.

Dimensions: length (maximum) 215 mm; width (maximum) 40 mm.

Patina: thick and rough dark-green patina, showing some lighter green patches. Details partially obscured.

Manufacture: decoration is apparent around the base of the socket, comprising two grooved bands. Above and below them is a series of engraved bows. This decoration is widely attested in the Urnfield culture group of central-eastern France and Bayern (De Marinis 1970 a: 66).

Use: BLADE: both the cutting edges are battered over their extent. Near the tip, the midrib protrudes from the line of the blade edges. Despite the corrosion build-up, it may indicate an extended use.

SOCKET: at a point roughly halfway up its length the socket is broken at a right angle to its length. A vertical crack is evident at the mouth of the socket (Fig. A.74). They may indicate a deliberate damage, perhaps resulted from the removal of the wooden shaft and in fact there are no evident marks in association with this. However, they may also be use-related. This is only a supposition which cannot exclude other interpretations.

Other marks: the spearhead seems to have been heavily damaged. The blade edges show severe bends (Fig. A.75, 76). Some longitudinal striations run over the length of the blade but they seem to be post-depositional marks, as they cut through the patina (Fig. A.76). The fragment of the socket has been glued together with the rest of the spearhead during conservation treatments. Perhaps the spearhead withstood fire, although the evidence cannot be judge with confidence in absence of metallographic analysis. However, this assumption may be strengthened by the fact that other specimens from coeval tombs shows the same evidence (see 6/1, 6/2).
7. LUINO (Varese-Lombardy)

Current Location: Civico Museo Archeologico of Milan (Castello Sforzesco).

Date of find: in 1882, during the construction of the railway line Novara-Pino, a number of cremation tombs were found in an area 150 m x 30 m, at approximately 50 cm – 120 cm underground. The spearhead considered here was donated to the Museum of Milan by Castelfranco, who in turn received it from the owner of the land where construction works were conducted.

Chronology: Final Bronze Age (Ha B1 – 10th century BC) (De Marinis 1970 a: 65).

Structure of the tomb: the spearhead was found in an urn, perhaps covered by a stone slab. No other indications are available.


Examination of the spearhead:

7/1 (A9925)

Description: flamed socketed spearhead. Complete, with a small piece of tip missing.

Dimensions: Length (maximum) 251 mm; width (maximum) 45 mm.

Patina: dark-green patina; flaking away in place.

Manufacture: a bevel is evident over the length of the surviving cutting edges. Decoration is apparent over the length of the socket, comprising five grooved bands separated by rows of concentric circles. Below and above the bands there are concentric incised bows. Two longitudinal hatched bands run over the midrib and they converge at a point which is approximately above the maximum width of the blade (Fig. A.77). This decoration is widely attested in central and northern Europe, though closer comparisons can be made with specimens from Bolzano/Bozen (Alto Adige/Südtirol) and Bayern (De Marinis 1970 a: 65).

Use: BLADE: the cutting edges appear battered over their extent and the tip is blunt (Fig. A.78). At approximately three quarters of the way up the length of the blade (left edge) a deep notch is still in place (Fig. A.79).

SOCKET: it appears in a good condition.

Other marks: no useful information.
8. TINTORIA COMENSE (Como-Lombardy)

Current Location: Museo Civico Archeologico “Paolo Giovio” (Como).

Date of find: in 1922, during construction works at the corner between via Regina and via Benzi (Como), a tomb was found at approximately 3 m underground.

Chronology: the tomb is attributed to the Final Bronze Age (Ha B1 – 10th century BC) on typological grounds (De Marinis 1971-1972: 81).

Structure of the tomb: no information is available about the structure of the tomb.

Objects in association: the bronze artefacts which can be attributed to the grave are: the spearhead, nine bronze spirals, five brooches with swelled bows and two spindle whorls.


Note: I cannot provide a detailed examination of the spearheads as at the time of my visit it was tied to a panel for exhibition reasons.

Examination of the spearhead:

8/1

Description: rhomboidal socketed spearhead. Complete with some damage.

Dimensions: Length (maximum) 238 mm.

Patina: dense olive patina with some green patches.

Manufacture: decoration is apparent around the circumference, comprising two grooved bands above the mouth of the socket and another band at approximately halfway up to the length of the blade. No other evidence can be attributed to this process.

Use: BLADE: both the cutting edges appear to be heavily worn over their extent, though the corrosion build-up may have altered their original condition.

Other marks: the damage inflicted on the cutting edges might have resulted from deliberate damage rather than through use (Fig. A.80).

SOCKET: it appears in good condition.
9. MONCUCCO (Como-Lombardy)

Current Location: Museo Civico Archeologico “Paolo Giovio” (Como).

Date of find: in a period ranging from 1874 to 1876 a conspicuous number of tombs (ca. 150-200) were found during agricultural works. In 1876, archaeological excavations recovered twelve more tombs, whose artefacts were donated to the Museum of Como (De Marinis 1970 b: 88, 1971-1972: 73).

Chronology: overall, the material remains found at the Moncucco cemetery cover a span of time ranging from the Protogolasecca (11th-9th century BC) to Golasecca I (8th – 7th century BC). The urn which contained the spearhead is attributed to an advanced phase of the Final Bronze Age (Ha B1 – 10th century BC) on typological grounds (Colonna 2006: 173-75). On the other hand, De Marinis (1970 b: 89) assigned the decoration around the circumference of the socket to the HA B2-3 (9th-8th century BC).

Structure of the tombs: Moncucco is a cremation cemetery. The majority of the graves contained only cremated bones. According to De Marinis (1970 b: 88), the twelve tombs recovered during archaeological excavations were found in:
- Urns without the shallow bowl;
- Urns covered by a sandstone slab;
- Pits with stone lined walls.

Grave-goods: The majority of the graves contained only the cremated bones. In some rare cases small ceramic vessels were found either near the urn or placed inside the urn along with spindle whorls and bronze artefacts (De Marinis 1970 b: 88). One of them contained a spearhead which was placed in an urn.

Bibliography: De Marinis 1970 b.

Note: I cannot provide a detailed examination of the spearheads as at the time of my visit it was tied to a panel for exhibition reasons.

Examination of the spearhead (NB not illustrated):

9/1

Description: Lanceolate socketed spearhead with round base. Almost complete.
**Dimensions:** Length (maximum) 148 mm; width (maximum) 30 mm.

**Patina:** light green patina; some darker green patches showing.

**Manufacture:** decoration is apparent around the circumference, comprising two grooved bands separated by a row of incised triangles. No other indications can be attributed to this process.

**Use:** BLADE: the cutting edges appear to be heavily battered. However, at present it is not possible to distinguish between deliberate or use-related damage.

SOCKET: it appears damaged around the mouth of the socket and it might be use-related.

**Other marks:** no evidence can be related to deliberate damage.
10. VILLA CAPPELLA (Ceresara-Mantua-Lombardy)

Current Location: Museo Nazionale Preistorico Etnografico "Luigi Pigorini" (Rome)

Date of find: early information about the terramara dates back to the 1879. The site is located on the bank of the Tartaro river.

Chronology: the majority of the material remains can be attributed to the end of the Middle Bronze Age (MBA 3, ca. 1500-1350 BC). Some of the objects found at Villa Cappella were donated to the Museum “Luigi Pigorini” in Rome. The small leaf-shaped spearhead (Fig. 2.2) can be compared with two specimens, respectively from the deposit of Oggiono-Ello (3/2) (Fig. 2.4) and from the terramara of Castione dei Marchesi (13/2) (Fig. 2.3). In these two examples the leaf-shaped blade is wider than the spearhead here considered. However, another parallel may exist with a piece from Finilone (27/1) (Fig. 2.1), whose narrower blade seems to match with the spearhead from Villa Cappella. Whatever the parallel, all three spearheads can be assigned to the end of the Middle Bronze Age (MBA 3) and accordingly, it seems reasonable to extend the same chronology to the piece here considered.

**Examination of the spearhead:**

10/1 (46059)

**Description:** leaf-shaped socketed spearhead. Incomplete with part of the socket missing.

**Dimensions:** Length (maximum) 90 mm; width 27 mm.

**Patina:** dark green patina partially stripped away, with some lighter patches; the surface is largely covered by encrustation. Details are locally visible.

**Manufacture:** BLADE: longitudinal grinding marks are still visible over some portions of the blade (Fig. A.81). The surviving cutting edges seem to have been sharpened as finer hammering might indicate (Fig. A.82).

**Use:** BLADE: the cutting edges appear battered in place, though corrosion build-up might have exaggerated the extent of the damage. However, some notches appear to have been inflicted in antiquity (Fig. A.83).

SOCKET: the socket is broken away and it may be use-related, as the break does not show fresh metal (Fig. A.84).

**Other marks:** no evidence can be related to deliberate damage. Some oblique grinding marks on the midrib might be related to the cleaning process as they seem to be related to the stripping of the patina and encrustation.
11. ROVERE DI CAORSO  (Caorso, Piacenza – Emilia Romagna)

**Current Location:** Musei Civici di Palazzo Farnese (Piacenza).

**Date of find:** the early information about the *terramara* is given by Pallastrelli in 1877 who received some archaeological artefacts – and among them the spearhead - which were found some years before following the construction of a new road (Scotti 1894 a: 4). However, the first systematic archaeological investigations were conducted by Scotti only at the end of the century. While the first campaigns were devoted to the identification of the perimeter structures, in 1895 a series of trenches were dug in the central part of the *terramara* and in the part believed to be a circumscribed area encircled by a dyke (Mutti 1993: 46).

**Chronology:** the analysis of the material remains revealed a long period of occupation ranging from the early and central phases of the Middle Bronze Age (MBA 1/2 – MBA 2, which is widely attested, ca. 1600-1500 BC) to the Recent Bronze Age (1350-1150 BC) (Mutti 1993: 51-2). The spearhead is attributed on typological grounds at the end of the Middle Bronze Age (MBA 3, ca. 1500-1350) (Bruno 2007: 198-9)

**Structures:** the *terramara* of Rovere di Caorso is the westernmost and it is placed in the low plain on a small morphological mound formed by the sediments transported by fluvial processes. The paleochannel of the Chiavenna river is located ca. 200 m from the site. Scotti (1894 a) noted that the total extension of the *terramara* was approximately 2 ha (ca. 4.942 acres). It had a trapezoidal form, encircled by a moat and protected by earthwork supported on the inside by a buttress. The internal space was divided in a quadrangular pattern by perpendicular streets (*cardo* and *decumanus*) (Scotti 1896: 60). According to the author, the remains of the piles that sustained the platform on which the houses were built were still in place. In a later remark, Scotti (1894 b: 373-76) revealed that the latest investigation led to the discovery of an area (50 m x 25 m) within the site delimited by an embankment, which he defined “*templum*”. It contained three pits filled up with ceramic shards, animal bones and flint flakes, which were interpreted as votive deposits, hence relating to foundation rites (Scotti 1896: 57-61). Recent research demonstrated that not all the information provided by Scotti can be easily verified. According to Mutti (1993: 47), while the moat and the embankment can be confirmed, the evidence of a
temple and the characteristics of the internal structures of the terramara remain uncertain.

**Material remains:** all the materials found by Scotti during the archaeological campaigns were given to the Museum of Piacenza, while few other objects (the spearhead, an axe and a nozzle), which were part of the Pallastrelli’s collection, were bequeathed to the museum. The remains discovered will be briefly summarized. Besides pottery, which consists in both coarse and fine vessels, bronzes are also consistently attested: axes, daggers, a spearheads, pins, chisels and other tools. Bone-working was carried out by skilful artisans and bone and antler were used for a wide range of functional and decorative implements: arrowheads, spatula, a curb bit, a semi-finished comb and other decorated objects. On the other hand, stone objects are scarcely attested. A fragment of a nozzle and perhaps a crucible might indicate the bronze-working and the production of artefacts in place. However, semi-worked objects, moulds and slag were not found.

**Bibliography:** Scotti 1894 a, 1894 b, 1896; Mutti 1993.

**Examination of the spearhead:**

11/1

**Description:** leaf-shaped socketed spearhead. Complete.

**Dimensions:** Length 159 mm; width (maximum) 47 mm.

**Patina:** rough dark green patina; some bronze patches showing.

**Manufacture:** BLADE: a bevel runs over the length of the cutting edge, though it is more evident on both sides on the left edge (Fig. A. 85-86). Longitudinal grinding marks are apparent on the midrib (Fig. A.88). The cutting edges seem to have been sharpened. Casting seams have been removed.

**Use:** BLADE: the cutting edges appear battered with nicks, notches and bowed portions still in place. The damage mostly covers the length of the blade, but not the tip and it is more apparent on the left edge (Fig. A.87-88). It is likely that these marks have been inflicted in antiquity as they are covered by patina. It may be worth noting that angled or perpendicular impacts between blades may cause bows and notches. On the other hand, bowed edges may also have resulted from a defensive use of the weapon (i.e parrying blows) (Bridgford 2000).

**Socket:** the socket appears in good condition.
Other marks: no evidence can be related to deliberate damage.
**12. CASAROLDO DI SAMBOSETO** (Busseto- Parma – Emilia Romagna)

**Current Location:** Museo Archeologico Nazionale di Parma “Palazzo della Pilotta”
(Parma)

**Date of find:** the first archaeological investigations were conducted at Casaroldo by Strobel and Pigorini in 1862. In the same year the area gained interest from the extraction of the marl, a lacustrine deposit used for fertilizer. In the following years the soil was mined systematically, however, Pigorini was able to control the area periodically recording new findings and structures. Recently, new archaeological investigations were conducted under the auspices of the Cassa di Risparmio di Parma, but they could detect neither structures nor layers relating to the site (Mutti 1993: 56-57; Conversi 1997: 93-94).

**Chronology:** the analysis of the material remains revealed an occupational period ranging from the central phase of the Middle Bronze Age (MBA 2, ca. 1600-1500 BC) to the Recent Bronze Age (1350-1150 BC) (Mutti 1993: 51-2). The two spearheads are attributed on typological grounds respectively to the end of the Middle Bronze Age (12/2: MBA 3, ca. 1500-1350 BC) and to the Recent Bronze Age (12/1: ca. 1350-1150 BC) (Bruno 2007: 154-5, 164-5).

**Structures:** the *terramara* of Casaroldo di Samboseto is placed between the low and medium plain on a small morphological mound (ca. 4 m high). The moat and the embankment which encircled the site are still visible, while the space within the site was mostly depleted by the extraction of the marl. According to the stratigraphic sequence, that was identified by Pigorini, the houses were built on a platform sustained by a network of poles. The site was abandoned at least three times, and the subsequent reoccupations involved in turn the clearance of the previous occupational layers, hence destroying and setting on fire the old structures. The presence of rain water in which the layers partially lay, might indicate that the houses were built upon piles even though the village was entirely on dry land, hence the deduction that water in some of the *terramare* sites can on occasion be accidental. The thin black layers, which would have indicated the abandonment of the site, were subsequently reinterpreted as the remains of the platform upon which the houses were built (Mutti 1993: 57-58).
Material remains: one of the two spearheads (12/2), as the majority of the materials found during the extraction of the marl, was donated to the museum at Parma by farmers (Gazzatta di Parma 1862), while small groups of objected are still held in different museums. The metallurgical activity is indicated by possible crucibles and a blower. The enormous range of objects found at Casaroldo covers the typical repertories of the terramare sites, with bronze, bone and fictile industries being widely attested.

Bibliography: Gazzetta di Parma 1862; Mutti 1993; Conversi 1997.

Examination of the spearhead:

12/1 (56?)

Description: sub-triangular socketed spearhead. Complete.

Dimensions: Length 194 mm; width 39 mm.


Manufacture: Casting seams have been removed. No other information available.

Use: BLADE: the spearhead seems to have been resharpened during its use-life as the asymmetry between the two edges may further confirm (Fig. A. 89). Longitudinal and oblique grinding marks are evident on the socket, on the midrib and at the junction between the midrib and the blade; they may be associated to maintenance work. The cutting edges appear in fine condition, indicating that the spearhead was probably slightly used after the last resharpening. A score is evident on the midrib near the angles of the blade and it may be use-related (Fig. A.90).

SOCKET: the socket is cracked at the mouth, and might indicate use (Fig. A.91).

Other marks: no evidence can be related to deliberate damage. Some finer striations may be due to conservation treatments.

12/2 (24)

Description: lanceolate socketed spearhead with round base and stepped blade. Complete.

Dimensions: Length 115 mm; width 27 mm.

Patina: blackish patina. Corrosion build-up is evident over the length of the socket.

Reasonable details.
**Manufacture:** the piece appears well finished and the surface is polished and smooth. The blade is stepped and a faint bevel is visible only on the right edge. The tip is perfectly pointed. No other evidence can be related to this process (Fig. A.92).

**Use:** **BLADE:** the cutting edges remain in fine condition, though there are two nicks on both sides, approximately halfway up the length of the blade. These marks seem not to be attributed to modern damage, as no fresh metal is evident. Therefore, it is likely that they have been inflicted in antiquity. At a point where the edges are damaged, faint scores are evident on the midrib. There may be a relation between the two evidence (Fig. A.93).

**SOCKET:** the socket is cracked at the mouth, and might indicate use (Fig. A.94). The spearheads does not seem to have been resharpened and all the evidence may hint to a slight use of the piece.

**Other marks:** no evidence can be related to deliberate damage.
13. CASTIONE DEI MARCHESI (Fidenza-Parma – Emilia Romagna)

Current Location: Museo Archeologico Nazionale di Parma “Palazzo della Pilotta” (Parma) (13/1). Museo Nazionale Preistorico Etnografico "Luigi Pigorini" (Rome) (13/2)

Date of find: the terramara is located on a mound that was systematically exploited for the extraction of the marl. The first archaeological excavation was carried out in 1862 by Strobel and Pigorini and it was particularly devoted to the identification of the structural characteristic of the site. In the same years the extraction of the dark earth continued and the materials recovered on that occasion were donated to the Museum at Parma by Ugolotti, the landowner of Castione dei Marchesi. In 1977 Pigorini dug an area of approximately 500 sm, which brought to light the presence of the moat and the relative embankment. According to the last investigation, the site – repeatedly rebuilt - revealed an extension of approximately 1 ha (ca. 2.471 acres). At present only a small portion of the area of the site, which survived the extraction works, is still in place (Mutti 1997 b: 90).

Chronology: the analysis of the material remains revealed a period of occupation ranging from the early Middle Bronze Age (MBA 1, ca. 1700-1600 BC) to the Recent Bronze Age (1350-1150 BC). Few objects may be attributed to the 12th century (Mutti 1993: 67). The spearhead (13/1) was attributed on typological grounds to the end of the Middle Bronze Age (ca. 1500-1350 BC) (Bruno 2007: 163-164). A second specimen, very similar to the leaf-shaped spearhead from the deposit of Oggiono-Ello (3/2), can be assigned to the same period. It is held in the Museum “Pigorini” of Rome, which, according to the register of the museum, may come from the terramara of Castione dei Marchesi.

Structures: the archaeological investigations which were carried out by Pigorini in 1877 brought to light a complex network of poles as well as the remains of the wooden beams which constituted the platform on which the houses where built. The poles were stuck into the ground at different depths, perhaps indicating that new poles were added on a regular basis (Mutti 1997 a: 219). Also here (see above Casaroldo di Samboseto), the presence of water, despite the network of poles, may be interpreted as occasional, with the site being built on a dry land.

Material remains: the majority of the materials found during the extraction of the marl, were donated to the museum of Parma by Ugolotti, while the body of objects found
during the excavations were meticulously recorded by the excavators and subsequently donated to the museum. One of the spearheads found at Castione dei Marchesi (13/1) was donated to the Museum of Parma in 1874 by Ugolotti, according to the Acquisitions Register held in the museum (p. 53, No. 15: 25-June-1874). The range of material found at Castione dei Marchesi refers to the typical repertory of the terramare sites. It is worth noting that besides bronze, bone and fictile industries, amber-working seems also to be attested.

**Bibliography:** Mutti 1993; Mutti 1997 a; Mutti 1997 b.

**Examination of the spearhead:**

13/1 (2139)

*Description:* sub-triangular socketed spearhead with a slightly rounded base. Complete.

*Dimensions:* Length 133 mm; width 38 mm.

*Patina:* dull dark green patina with lighter green patches showing. Heavy corrosion, especially in the tip area. Poor details.

*Manufacture:* the casting seams have been removed. A little hole is evident on the socket and it may be a casting flow (Fig. A.95). No other evidence can be related to this process.

*Use:* **BLADE:** the cutting edges appear battered over their extent, though the corrosion build up may have exaggerated the evidence. However, some marks may refer to use. A faint fine hammering right above the two angles of the blade may represent attempts to resharpen the edges. The tip appears reworked, and also the asymmetry between the two edges, that is more visible above the base of the blade, may have resulted from reworking. In the tip area a deep cut is evident and it may be caused by use, though corrosion may have altered the extent of it, so that it cannot be judged with confidence.

**SOCKET:** the wall of the socket appears very thin at the mouth. It is likely that the mouth of the socket was hammered to secure the spearhead to the wooden shaft. This would have made the metal thinner, ultimately breaking it in that point (Fig. A.96).

*Other marks:* no evidence can be related to deliberate damage. A group of scores may be related to post-depositional damage, as they cut through the patina.
Description: leaf-shaped socketed spearhead. Incomplete with part of the socket missing.

Two joined pieces.

Dimensions: Length (maximum) 107 mm; width 37 mm.

Patina: rough dark green patina. Heavy corrosion stripped. Details obscured.

Manufacture: no evidence visible.

Use: BLADE: the evidence of possible use is largely lost (Fig. A.97). The tip snapped off and part of the socket is missing, although the damage may be modern.

Other marks: no evidence can be related to deliberate damage. The two pieces have been glued.
14. PARMA (Parma – Emilia Romagna)

**Current Location:** Museo Archeologico Nazionale of Parma “Palazzo della Pilotta”.

**Date of find:** in 1864, the same year the *terramara* within city centre of Parma was detected, Pigorini and Strobel conducted the first archaeological excavation. At the threshold of the following century (1907; 1930-1931) the diggings continued, bringing to light a conspicuous number of poles (Mutti 1993:110-111).

**Chronology:** the analysis of the material remains attests an occupational period ranging from the central phase of the Middle Bronze Age (MBA 2, ca. 1600-1500 BC) to the Recent Bronze Age (1350-1150 BC). The spearhead is attributed to the Recent Bronze Age on typological grounds (Bruno 2007: 162-164).

**Structures:** the site seems to be encircled by a moat and the fact that the poles were stuck into the ground at different depth led Pigorini to interpret this evidence in terms of different occupational phases (see above Castione dei Marchesi) (Mutti 1993: 111). A recent study which revised all the data available so far makes important remarks about the structure and the extension of the site (Catarsi dall’Aglio 1990). According to the sources - though often partial and vague - the site was placed on a terrace high enough to avoid fluvial floods. In addition, some urns were found on the opposite terrace, indicating that the two spheres, that of the living and that of the dead, were physically separated by the river and by a marshland, which seems to be attested by conspicuous willow remains (Catarsi dall’Aglio 1990: 247).

**Material remains:** unfortunately, it is not possible to ascertain the exact stratigraphic position of the objects, as it was not meticulously recorded. All the artefacts, held in the museum at Parma, have been studied by Catarsi dall’Aglio (1990). The metallurgical activity is indicated by a mould and two nozzles. Pottery is largely represented by fine vessels characteristic of each phase: handles with lateral conical projections (MBA 2), falcate handles (MBA 3) and cups and bowls very common in the early Late Bronze age (RBA). Contrarily, few bronzes are recorded (only a spearhead and part of a dagger) while some functional tools would attest bone-working. The spearhead was found in 1889 in the foundation of the S. Benedetto bastion, which was demolished in that year (Pigorini 1890: 53). Pigorini reasonably supposed that the soil, that supported the bastion, was taken from the *terramara* area.

**Bibliography:** Pigorini 1890; Mutti 1993; Catarsi dall’Aglio 1990.
Examination of the spearhead:

14/1 (3000)

**Description:** lanceolate socketed spearhead with round base. Complete.

**Dimensions:** Length 132 mm; width 36 mm.

**Patina:** black patina; bronze patches showing. Details visible.

**Manufacture:** grinding marks run over the length of the blade (Fig. A.98) and the piece appears well finished. Casting seams have been removed. No other evidence can be related to this process.

**Use:** BLADE: the cutting edges appear in a good condition and no marks can be related to damage which resulted from use. However, both the cutting edges appear resharpened. Probably, the spearhead was slightly or not used after the resharpening (cf. 12/1) (Fig. A.99).

SOCKET: it seems that the socket was reworked and its length reduced; then, the cut was smoothed through hammering and filing, but it remains asymmetric; a possible tool mark is evident above the mouth of the socket and it may have been inflicted in antiquity. This evidence is probably connected to reworking process (Fig. A.100, 101).

**Other marks:** no evidence can be related to deliberate damage.
Current Location: Museo Archeologico Nazionale of Parma “Palazzo della Pilotta” (15/1); Museo Nazionale Preistorico Etnografico "Luigi Pigorini" (Rome) (15/2)

Date of find: in the first half of the 19th century the existence of a terramara site on the left side of the Ghiara stream was already well-known. Nevertheless, the area of interest to the archaeological findings was largely exploited for the extraction of marl (Mutti 1993: 77).

Chronology: the analysis of the material remains attests an occupational period ranging from the central phase of the Middle Bronze Age (MBA 2, ca. 1600-1500 BC) to the Recent Bronze Age (1350-1150 BC). The spearheads (15/1) and a miniature axe may be assigned to the Final Bronze Age. Accordingly, it appears still in doubt if the settlement continued up to the Final Bronze Age, or if it was reoccupied after a period of abandonment (Mutti 1993: 79). In her work, Mutti reasonably compared the piece to the spearhead contained in the Poggio Berni hoard which is attributed to non-advanced phases of the Final Bronze Age (12th century). On the basis of the spearheads found in the Pila del Brancón hoard (Verona) (Salzani 1994 a), which was discovered soon after the Mutti’s book, it is now possible to draw a closer parallel between the spearhead considered here and the new findings. It may be assigned to a period ranging from the end of the Recent Bronze age to the subsequent early Final Bronze Age. The other piece, a small leaf-shaped spearhead with stepped blade (15/2), can be compared to an early example with stepped blade attested at the terramara of Casaroldo di Samboseto (12/2), and to two other spearheads found respectively in a tomb at Cologno al Serio (Bergamo) (De Marinis 1972: 81) and in the deposit of Oggiono-Ello (3/2). Both the specimens can be attributed to the end of the Middle Bronze age.

Structures: no information available.

Material remains: part of the exiguous group of objects coming from the site - and among them the spearhead (15/1) - were donated to the museum of Parma between 1872 and 1877. According to Laviosa Zambotti (1939 cited in Mutti 1993: 77), the only object held in the museum of Rome, should be a sickle. At this regard, it seems worth noting that a second spearhead (15/2) I examined in Rome labelled “Campore di Borgone” (inventory number 42718). In my opinion, the specimen could be
considered as coming from the terramara of Campore di Bargone, though the provenance of the piece was not verified further.

**Bibliography:** Pigorini 1890; Mutti 1993; Catarsi dall’Aglio 1990.

**Examination of the spearheads:**

15/1

**Description:** leaf-shaped socketed spearhead with round base. Complete.

**Dimensions:** Length 162 mm; width 48 mm.

**Patina:** glossy light green patina. Reasonable details.

**Manufacture:** the piece appears perfectly executed and finished. Casting seams were completely removed. Steps and bevels are evident over the length of the blade (Fig. A.102).

**Use:** BLADE: the cutting edges seem unworn, though at a point approximately halfway up the length of the blade the right one appears eroded by corrosion (Fig. A.103). SOCKET: it remains in good condition.

**Other marks:** no evidence can be related to deliberate damage.

15/2 (42718)

**Description:** leaf-shaped socketed spearhead with round base. Complete.

**Dimensions:** Length 94 mm; width 27 mm.

**Patina:** thin black patina; bronze showing. Reasonable details.

**Manufacture:** the piece appears well executed. Casting seams were completely removed. Longitudinal grinding marks are evident over the length of the stepped blade and at the junction where the midrib and the blade conjoin (Fig. A.104). A fine sharpening is evident on the cutting edges (Fig. A.105). A group of striations are evident on the left angle (Fig. A.106). They may be related to manufacture (i.e. sharpening) or perhaps to maintenance works; I would exclude use-related marks.

**Use:** no evidence can be related to this process.

**Other marks:** no evidence can be related to deliberate damage.
16. CODEMONDO (Reggio Emilia – Emilia Romagna)

**Current Location:** Musei Civici of Reggio Emilia.

**Chronology:** the typological analysis of the bronze artefacts attests an occupational period ranging from the end of the Middle Bronze Age (a dagger of the “Calerno” type MBA 3, ca. 1500-1350 BC) (Peroni and Piccoli 1991-1992: 310-11) to Recent Bronze Age (1350-1150 BC). On the other hand, the full Recent Bronze Age seems to be attested by pottery findings. Bianchi and Lincetto (1997 a: 403, no. 124) compared the spearhead found at Codemondo to the spearheads recovered in the Pila del Brancón hoard (Salzani 1994 a) and assigned it to an advanced phase of the Recent Bronze Age. However, even though the shape is very similar, the piece here considered does not have those peculiar features which are typical of the spearheads in the Pila del Brancón hoard (i.e. stepped blade). Though smaller, the piece can be also compared to a spearhead from the deposit of Oggiono-Ello (3/1). Combining these considerations with the period covered by the metalwork found at Casaroldo, the spearhead may be attributed to an earlier phase ranging from the end of the Middle Bronze age (MBA 3) to the Recent Bronze age (Bruno 2007: 201-2).


**Examination of the spearhead:**

16/1 (25-156)

**Notes:** the examination is limited to only one side of the spearhead as at the time of my visit it was tied to a panel for exhibition reasons.

**Description:** socketed spearhead with convergent edges. Complete.

**Dimensions:** Length 147 mm; width mm.

**Patina:** dull dark green patina. Details visible.

**Manufacture:** the piece appears well executed. Casting seams were completely removed. Longitudinal grinding marks are evident over the length of the blade and a faint bevel is still visible at approximately three quarters of the way up the length of the right edge (Fig. A.107). A fine sharpening is still evident where the edges are not
battered, but not at the two angles as in the majority of the cases examined so far (Fig. A.108).

Use: BLADE: both the edges appear battered and at approximately halfway up the length of the blade a few small notches are evident on the left edge (Fig. A.109). The midrib appears damaged: towards the tip there are a couple of hollows. These marks may be use-related (Fig. A.107). However, the tip remains in good condition.

SOCKET: the socket is damaged at the mouth (Fig. A.108); it may have resulted from use (i.e. concussion impact).

Other marks: no evidence can be related to deliberate damage.
Current Location: Musei Civici of Reggio Emilia.

Date of find: The terramara site was placed on a terrace on the right bank of the Enza stream. Subsequently, the site was reoccupied and flourished during the Etruscan period (7th -4th century BC). The latter occupation period partially obliterated the original setting of the Bronze Age. In addition the area was subject to marl extraction in the 19th century, which largely depleted the Bronze Age site. Some archaeological investigations were conducted by Chierici in the second half of the 19th century (Saflünd 1939).

Chronology: the typological analysis of the bronze artefacts revealed an occupational period ranging from the end of the Middle Bronze Age (MBA 3, ca. 1500-1350 BC) to the Recent Bronze Age (1350-1150 BC) (Peroni and Piccoli 1991-1992: 310-11). Accordingly, the three spearheads found at Servirola (17/1-3) have been attributed to the Recent Bronze Age on typological grounds (Bruno 2007: 85, 110-11, 142). However, Bianchi and Lincetto (1997 b: 389, no. 75) compared one of the three spearheads (17/1) to a specimen found in the deposit of Oggiono-Ello (3/1) and generally to some spearheads found in the Pila del Brancón hoard (Salzani 1994 a), respectively assigned to the end of the Middle Bronze Age (MBA 3) and to a period ranging from an advanced phase of the Recent Bronze Age to the early Final Bronze Age (RBA-FBA 1). On the basis of this consideration the authors attributed the spearhead to the MBA 3-RBA. Yet, I do not see a very striking parallel with the spearhead from Oggiono-Ello.


Examination of the spearheads:

17/1

Notes: the examination is limited to only one side of the spearhead as at the time of my visit it was tied to a panel for exhibition reasons.

Description: leaf-shaped socketed spearhead. Complete.

Dimensions: Length 226 mm; width 44 mm.

Patina: blackish patina. Details visible.
**Manufacture:** the piece appears polished and well executed. Casting seams were completely removed. Longitudinal grinding marks are evident over the length of the blade and where the midrib and the blade conjoin. Bevels are apparent on the side examined (Fig. A.110)

**Use:** BLADE: the cutting edges and the tip appear unworn, where the corrosion build-up does not affect them; the corrosion particularly acted on the socket, on the tip and on the right cutting edges, where it eroded the surface, forming clusters of small whitish holes (Fig. A.111, 112) and giving to the edge a “nibbled” appearance over the length (Fig. A.111).

SOCKET: the socket remains in fine conditions.

**Other marks:** no evidence can be related to deliberate damage.

17/2

**Description:** flamed socketed spearhead. Incomplete with part of the blade and the socket missing.

**Dimensions:** Length (maximum) 65 mm; width 36 mm.

**Patina:** blackish patina; some bronze patches showing. Details visible.

**Manufacture:** the piece appears polished and well executed. Casting seams were completely removed. Longitudinal grinding marks are evident at a point where the midrib and the blade conjoin. Bevels are apparent on the side examined.

**Use:** three notches at the angle and near the upper break are still in place on the left edge. With the exception of these marks, the cutting edge does not show major damage (Fig. A.114). The marks may be use-related, though other interpretations cannot be ruled out.

**Other marks:** the cutting edge (right) shows a sequence of notches over the length of the blade (Fig. A.113), which are unlikely to have occurred during use (i.e. combat). The blows may have been inflicted before the tip has broken away, as an indent seems to continue across the break (Fig. A.113). No evident distortion is apparent in association with the breaks, though the observation may be biased by the fact that only one side of the spearhead was examined. However, it may be worth saying that it is likely that the piece was broken in antiquity when the purposeful damage had already occurred, as the breaks do not seems to show fresh metal.
Description: sub-triangular socketed spearhead with a stumpy shape. Complete.

Dimensions: Length 84 mm; width 34 mm.

Patina: blackish patina; some bronze patches showing. Details visible.

Manufacture: Casting seams were completely removed. Longitudinal grinding marks are evident at a point where the midrib and the blade conjoin.

Use: BLADE: the cutting edges appear in good condition and no major damage can be attributed to use. The cutting edges have been subjected to resharpening as fine hammering seems to indicate (Fig. A.115). The tip appears reworked.

SOCKET: it remains in good condition. One rivet hole is strained and it may have occurred through use (Fig. A.116).

Other marks: no indication can be identified.
Current Location: Museo Archeologico Nazionale di Parma “Palazzo della Pilotta”.

Date of find: the terramara of Santa Rosa di Poviglio is the only one extensively excavated with a systematic stratigraphic method. Archaeological investigations began in 1984, directed by Bernabò Brea and Cremaschi under the auspices of the Soprintendenza Archeologica dell’Emilia Romagna and the University of Milan. The perimeter of the site (“Villaggio grande”), and a smaller area encircled within the larger one (“Villaggio Piccolo”) are clearly visible on aerial photographs. The first investigation involved the “Villaggio Piccolo”, with a trench which measured approximately 5000 sm, running north to south across the site (Bernabò Brea and Cremaschi 1997: 196). By 1992 the area under investigation was the southern part of the “Villaggio Grande” (Cremaschi and Pizzi 2006: 50).

Chronology: two of the three fragments of spearheads considered here (18/1, 2) show a stepped blade and may be compared with a piece found at Casaroldo di Samboseto (12/2), dated on typological grounds to the end of the Middle Bronze Age (MBA 3 ca. 1500-1350 BC). The chronological attribution does not contrast with that of Santa Rosa di Poviglio so far proposed (advanced phases of the Middle Bronze Age – MBA 2-3 and Recent Bronze Age), though this was contested by De Marinis (2002) who assumed that some typological and chronological attributions were in contradiction with the stratigraphic data. The third fragment - part of a spearhead blade - does not allow any typological consideration and it may be placed within a more generic chronology.

Structures: the moat visible in aerial photographs encloses an area of ca. 7 ha. The archaeological investigation in the smaller village (Villaggio Piccolo) (1987-90 an 1992) revealed a series of structural features which can be attributed to two different phases. According to Bernabò Brea and Cremaschi (1997 c: 198-203) they can be briefly summarized as follows:

· Earlier phase: the Villaggio Piccolo was encircled by a wooden palisade, which was recovered under the earthwork. Traces of the wooden platform, probably elevated on poles, were found within the area of the smaller village under the embankment. A cluster of small cylindrical structures were interpreted either as grain or water storage pits, the latter intercepting ground water also in the dry season. Material
remains, assigned to advanced phases of the Middle Bronze Age (MBA 2-3), were found only in one pit, which was probably re-used over time.

- Later phase: at this phase it is possible to assign the earthwork and the moat. They lay partially on older structures (palisade, houses and moat).

The stratigraphic sequence of the “Villaggio Grande” (Bernabò Brea and Cremaschi 1997: 203-212) is articulated in different phases:

- Phase 0: advanced phases of the Middle Bronze Age (MBA2-3) – one grain pit and some water pits (up to 3 m deep) at the perimeter of the site. No evidence can be referred to houses.

- Phase 1: end of the Middle Bronze Age (MBA 3, ca. 1500-1350 BC) – Recent Bronze Age (ca. 1350-1150 BC) – occasional occupation, with no permanent structures.

- Phase 2: Recent Bronze Age 1 – elevated platform, on which the houses, and a wooden palisade were built. At the perimeter of the site, pits and small ditches were found outside the palisade. The water wells intercepted the ground water at ca. 2.20 m and 3.50 m (Cremaschi and Pizzi 2006: 50-60). Traces of the wooden platform were recovered in the area inside the Villaggio Grande. Above the pits, in which the poles were implanted, the excavators found a series of ash heaps which were interpreted as dumps for domestic waste. The village is entirely on dry land, as the water pits might indicate. In this phase there is no evidence of an embankment.

- Phase 3: Recent Bronze Age 2 - the previous phase was obliterated by a layer which may have accumulated during the advanced phase of the Recent Bronze Age when the area was occasionally used for craft activities. The earthwork and the connected moat might have been built during this moment. The earthwork appears unfinished (Ibidem. 51) and it should not be viewed as a defensive structure. Recent acquisitions revealed a series of wells dug at the bottom of the moat, which were used when the older ones were already deactivated (Cremaschi and Pizzi 2006; Cremaschi, Pizzi, Valsecchi 2006). The wells in the moat were deeper than the older ones and they may indicate that during an advanced phase of the Recent Bronze Age, a dry event and a subsequent shortage of water could have made deeper wells necessary in order to intercept ground water. Accordingly, Cremaschi, Pitti and Valsecchi (2006: 94) assumed that the abandonment of the terramare sites may be reasonably linked to a dry event. The climatic explanation along with the over-
exploitation of resources and the demographic pressure should be viewed as crucial factors for the collapse of the terramare system.

- Phase 4: it represents the last occupation of the village and it does not seem to include the platform supported by vertical poles. The total extension of the site remained unchanged.

The three fragments of spearheads were found during surveys in an area in the Villaggio Grande, where other bronze artefacts were recovered (Bianchi personal communication). The three fragments are unpublished and no other information is available.

**Bibliography:** Bernabò Brea and Cremaschi 1997 c; Cremaschi, Pizzi, Valsecchi 2006; Cremaschi and Pizzi 2006.

**Examination of the spearheads:**

18/1

**Description:** socketed spearhead with stepped blade. Fragment of the tip.

**Dimensions:** Length (maximum) 33 mm.

**Patina:** rough mottled light green patina. Details poor.

**Manufacture:** no indication can be related to this process.

**Use:** BLADE: the surviving cutting edges appear notched (Fig. A.117). No evidence of deliberate damage is evident at the lower break and it may have resulted from use, though other possibilities cannot be ruled out.

**Other marks:** no indication can be identified.

18/2

**Description:** socketed spearhead with stepped blade. Fragment of the tip.

**Dimensions:** Length (maximum) 28 mm.

**Patina:** rough mottled light green patina. Details poor.

**Manufacture:** no indication can be related to this process.

**Use:** BLADE: the surviving cutting edges do not have use-related damage, but their extent is too limited for any accurate evaluation (Fig. A.118). Despite this, the cutting edges may have been resharpened. No evidence of deliberate damage is evident at
the lower break and it may have resulted from use, though other possibilities cannot be ruled out.

**Other marks:** no indication can be identified.

18/3

**Description:** socketed spearhead. Fragment of the middle blade.

**Dimensions:** Length (maximum) 40 mm; width (maximum) 32 mm.

**Patina:** rough blackish patina; red patches showing. Details largely obscured.

**Manufacture:** no indication can be related to this process.

**Use:** BLADE: no evidence is visible on the surviving cutting edges (Fig. A.119). No evidence of deliberate damage is evident at the lower and the upper break.

**Other marks:** there is the possibility that the piece was exposed to heat (?) on the basis of the red patches under the patina and the slight distortion visible at the left edge. Unfortunately, this supposition cannot be confirmed at present.
19. PONTE NUOVO (Sassuolo - Modena– Emilia Romagna)

**Current Location:** Musei Civici of Reggio Emilia.

**Context of find:** Terramara on the right bank of the Secchia river (ca. 1 km far from it).

The first archaeological investigation directed by Canestrini dates back to 1864. Some years later Crespellani estimated that the settlement might have had an extension of approximately 1-1.5 ha (ca. 2471-3700 acres) (Pellacani 2009 b). Part of the artefacts are held in the Museum at Modena, while other objects, mostly bronzes, are at Reggio Emilia.

**Chronology:** the analysis of the material remains attests an occupational period ranging from the Middle Bronze Age (ca. 1700-1350 BC) to the Recent Bronze Age (1350-1150 BC). The leaf-shaped socketed spearhead has a close parallel in the deposit of Oggiono-Ello (3/2), assigned to the end of the Middle Bronze Age (MBA 3 ca. 1500-1350). The spearhead along with a conspicuous body of artifacts, which constituted Chierici’s collection, are now held in the Museum at Reggio Emilia (Pellacani 2009 b).

**Bibliography:** Pellacani 2009 b.

**Examination of the spearhead:**

19/1

**Notes:** the examination is limited to only one side of the spearhead as at the time of my visit it was fixed to a panel for exhibition reasons.

**Description:** leaf-shaped socketed spearhead. Complete.

**Dimensions:** Length (maximum) 102 mm; width (maximum) 25 mm.

**Patina:** rough blackish patina with light green and brownish encrustation. Heavy corrosion. Details largely obscured.

**Manufacture:** casting seams were removed. No traces of grinding marks are visible.

**Use:** BLADE: the cutting edges appear heavily corroded and use cannot be judge with confidence (Fig. A.120-121).

SOCKET: the mouth seems to have been hammered to secure the wooden shaft to the socket.
Other marks: no marks can be identified.
Current Location: Museo Civico Archeologico Etnologico of Modena.

Date of find: the early information about the extraction of marl in the area of the terramara date back to the 1840.

Chronology: the analysis of the material remains attests an occupational period ranging from the early Middle Bronze Age (MBA 1-2, ca. 1700-1500 BC) to the Recent Bronze Age (1350-1150 BC). The spearhead may be attributed to the Recent Bronze Age on typological grounds (Bruno 2007: 154-155), though Zanasi (1997 a: 398, no. 76) assigned the spearhead to the MBA 3-RBA.

Structures: the area of the site might have had an extension of approximately 2 ha. A moat and embankment were found along the south-eastern perimeter. The terramara might have expanded northward at the end of the Middle Bronze Age as the analysis of materials might indicate. It seems very likely that the actual course of the Molini channel retraces that of a paleo-channel as well as that of the ancient moat of the terramara (Pellacani 2009 a: 246-254). Recently, archaeological investigations were conducted by Cardarelli (1997, et alii 2006) in the area of the cemetery, which is located at ca. 200 m away from the terramara.

Material remains: the majority of the material found at Casinalbo does not have any stratigraphic or contextual indication. Therefore, the chronological sequence of the site relies largely upon typological studies. The metallurgical activity is attested by a mould for leaf-shaped spearheads and razors of the “Casinalbo” type, attributed to the end of the Middle Bronze Age (MBA 3) and to the subsequent period of the Recent Bronze Age (Le Fèvre-Lehöerff 1992) (Fig. 3: A,B). Interestingly, a striking parallel exists between the piece from Casinalbo and a mould for spearheads recovered at Gorzano (Fig. 4: A, B).

FIG. 3. Mould from Casinalbo. One half of a ophiodite mould for casting socketed spearheads (A) on one side, and razors on the other side (B) (photograph: author).

Examination of the spearhead:

20/1 (28)

**Description:** sub-triangular socketed spearhead. Incomplete with part of the tip missing.

**Dimensions:** Length (maximum) 115 mm; width 29 mm.

**Patina:** rough blackish patina with some smoother patches. Poor details.

**Manufacture:** the piece appears poorly finished as the surface of the edges seems rather rough. Small holes on the midrib and on the blade might suggest that the casting was of poor quality. The midrib shows a different section: the lower part is flattened and hammering may be associated with this evidence (Fig. A.122); the remaining portion in the tip area is rhomboidal. On the left edge at the base of the blade, hammering created a rough hollow area where the blade and the midrib conjoin. This is not evident on the other edge, generating an asymmetrical appearance between the two parts and indicating again poor finishing work or an extensive repair (Fig. A.123). Casting seams were removed.

**Use:** one notch is evident near the tip (Fig. A.125). Part of the cutting edge at the base of the blade is damaged (Fig. A.124)

**Other marks:** the piece was waxed during conservation treatment.
21. SANT’ AMBROGIO (Modena – Emilia Romagna)

**Current Location:** Museo Civico Archeologico Etnologico of Modena.

**Context of find:** the settlement is located on the bank of the Panaro river. According to Cattani (1997: 337-338), the site was already known in 1822. The area of the *terramara* was exploited for the extraction of marl up to the half of the 19th century. Canestrini and Boni conducted the first archaeological excavations at Sant’Ambrogio in the second half of the 19th century (1864 and 1877). At that time the excavators could not identify the perimeter of the site, which however remains still uncertain. Further remarks were made by Malavolti, who in 1950 excavated the lower layers of the site.

**Chronology:** interestingly, the majority of the objects found by Malavoti can be assigned to an advanced phase of the Middle Bronze Age (lower layers), while those recovered in the excavations conducted in the 19th century may be mostly attributed to the Recent Bronze Age. The analysis of the material remains attests an occupational period, ranging from the Middle Bronze Age (ca. 1700-1350 BC) to the Recent Bronze Age (1350-1150 BC). The socketed spearhead considered here can be attributed to the Recent Bronze Age on typological grounds (Bruno 2007: 192-193).

**Bibliography:** Cattani 1997.

**Examination of the spearhead:**

21/1

**Description:** lanceolate socketed spearhead with convergent edges. Incomplete with the socket missing.

**Dimensions:** Length (maximum) 125 mm.

**Patina:** dense olive patina. Details largely obscured by the advanced corrosion.

**Manufacture:** No traces of grinding marks are visible and most of the original surface seems to be obscured by corrosion (Fig. A.126). On the surviving edges a faint bevel and finer grinding marks are still in place (Fig. A.127).

**Use:** BLADE: no evidence can be attributed to use, as corrosion do not allow to assess it accurately.
SOCKET: the lower break socket may have occurred in antiquity, as it does not show fresh metal in section (Fig. A.128). No marks are in association with the break and perhaps it may have resulted from use.

*Other marks:* The piece was subjected to cleaning and waxing.
22. MONTALE (Castelnuovo Rangone - Modena– Emilia Romagna)

**Current Location:** Museo Civico Archeologico Etnologico of Modena.

**Date of find:** the first investigation in the area of the *terramara* initiated in 1871 by Boni, director of the museum of Modena, Bonizzi and Generali. Subsequently, although the area was mined for the extraction of marl, the objects recovered there were donated to the Museum at Modena. In 1881 and in the following years Boni recommenced the archaeological excavations, whose results were ultimately published in two volumes (Boni 1882, 1884). Saflünd (1939) lamented that the objects were collected regardless of the stratigraphic position. However, as for the structures, Boni referred about an embankment (9 m wide and 3.50 m deep) and a wooden platform sustained by poles. At the end of the last century, new investigations were carried out by the Museum of Modena. In that occasion it was possible to ascertain the presence of a moat (35 m wide and 4 m deep). At the same time it was possible to elaborate a complex stratigraphic sequence which revealed a long occupational period ranging from the early Middle Bronze Age to the Recent Bronze Age (Cardarelli *et alii* 1997: 224-228).

**Chronology:** the analysis of the material remains attests an occupational period ranging from the early phase of the Middle Bronze Age to the Recent Bronze Age. The spearhead is not mentioned in the two volumes published by Boni (1882, 1884) and it may be possible that it was recovered during the extraction works prior to 1881 or in the excavations conducted after the 1883. The spearhead of Montale has a sub-triangular base and it can be compared to other specimens found in other *terramare* sites (i.e. Castione dei Marchesi: 13/1, Casinalbo: 20/1 and Redu: 23/1. Accordingly, it might be assigned to the Recent Bronze Age or even to a period slightly earlier on typological grounds (MBA 3-RBA).

**Material remains:** the range of material found at Montale includes a wide repertory, which is typical of the *terramare* sites. Besides bronze, bone and fictile industries (ca. thousands of spindle whorls) are attested.

**Bibliography:** Boni 1882, 1884; Saflünd 1939; Cardarelli *et alii* 1997

**Examination of the spearhead:**

22/1 (M 19)
**Description:** socketed spearhead with sub-triangular base. Incomplete with part of the tip missing.

**Dimensions:** Length (maximum) 100 mm; width 35 mm.

**Patina:** rough mottled green patina. Details largely obscured.

**Manufacture:** details are largely obscured by corrosion build-up. However, a faint bevel is evident over the length of the blade (Fig. A.129). The casting seams are completely removed. No grinding marks can be identified. A small hole in the midrib may be a casting flaw (Fig. A.131).

**Use:** BLADE: due to the advanced corrosion, the condition of the edges cannot be assessed accurately. However, some nicks and notches might indicate use-related damage (Fig. A130). The tip is broken. This damage may be use-related as some distortions at the breaking point seem to indicate.

SOCKET: The socket remains in good condition.

**Other marks:** no evidence can be identified. The piece was subjected to cleaning and waxing.
23. REDÙ (Nonantola - Modena – Emilia Romagna)

**Current Location:** Museo Civico Archeologico Etnologico of Modena.

**Date of find:** The first archaeological investigations were carried out by Crespellani at the end of the 19th century (Saflünd 1939). The site might have an extension of approximately 1.5 ha.

**Chronology:** The analysis of the material remains found at Redù attests an occupational period ranging from the early Middle Bronze Age (MBA 1) to the Recent Bronze Age. The spearheads may be attributed to the Recent Bronze Age on typological grounds (Bruno 2007: 154-155), though Zanasi (1997 b: 398, no. 78) assigned one of them (23/1) to the MBA 3-RBA.

**Material remains:** The range of material found at Redù includes bronze, bone and fictile industries. Also a golden disc was found there.

**Examination of the spearhead:**

23/1 (43)

**Description:** Socketed spearhead with sub-triangular base. Two joined pieces.

**Dimensions:** Length 100 mm; width 34 mm.

**Patina:** Thin dark green patina. Details partially obscured.

**Manufacture:** Though the corrosion build up, the piece appear well finished (Fig. A.132). Casting seams are completely removed.

**Use:** BLADE: The surviving cutting edges appear good in most places. However, it may be possible that some damage was inflicted in antiquity (left edge: tip area and right edge), though exaggerated by the products of the corrosion (Fig. A.132, 133).

SOCKET: The socket remains in good condition. It is broken, and this may indicate use. However, for the two pieces have been glued together, it was not possible to examine the break in section, making it difficult to ascertain accurately whether the damage occurred in antiquity or not.

**Other marks:** No evidence can be identified. The piece was subjected to treatment to stabilise corrosion.
Description: socketed spearhead (very similar to 22/1?). Two joined pieces. Heavy corrosion.

Dimensions: Length 87 mm.

Patina: thin dark green patina, partially scraped away. Details largely lost.

Manufacture: no evidence can be related to this process.

Use: BLADE: the break which separated the spearhead in two pieces may be attributed to ancient damage (Fig. A.134). The separation of the tip from the rest of the spearhead may resulted from use as it appears corroded in section (Fig. A.135). The fact that a sort of distortion is evident on a small portion of the cutting edge at the upper break might support this interpretation (Fig. A.135).

SOCKET: The socket is cracked and broken at its mouth and it may indicate use.

Other marks: no evidence can be identified. The piece was subjected to treatment to stabilise corrosion.
The following contexts (24-26) consider a series of Middle and Recent Bronze Age centres in the morenic amphitheatre of Lake Garda (Verona - Veneto) where spearheads have been recovered (Bacino Marina, Imboccatura del Mincio and Bor di Pacengo, Fig.10: A, B). A brief history of the research conducted at Peschiera del Garda is necessary to better contextualize the findings. The Peschiera del Garda site is the first pile-dwelling settlement discovered in Italy and in Europe. In fact, the first reports of prehistoric material at Peschiera can be dated to 1830, thus many years before the investigations in Swiss alpine lakes conducted by Keller (1853-1854), who interpreted, for the first time, that prehistoric villages as pile-dwelling settlements. However, vast amounts of metalwork and wooden structures were recovered later (1860) at Peschiera, following the dredging operation conducted by the Austrians for the military construction of the *Marine Arsenal* in the area of the harbor. It is only now, on the wake of the contemporaneous discoveries of the “field of poles” in Switzerland, that the villages at Peschiera received the correct interpretation as pile-dwellings.

At least five areas were detected and investigated in the second half of the 19th century by Keller and von Sacken and subsequently by Italian archaeologists. Lake Garda and particularly the Peschiera sites are renowned for the vast array of metalwork recovered in the second half of the 19th century, so that the term “Peschiera Horizont” is now used to identify specific style, manufacture and types of objects (i.e. Peschiera type brooches with violin bow, Peschiera dagger etc.) mostly attributed to the Late Bronze age and the beginning of the Final Bronze age. The circulation of finished artifacts and moulds belonging to the “Peschiera Horizont” as well as connections between continental Italy and the Aegean are widely attested (Bietti Sestieri 1973: i.e. the axe mould found in the House of the Oil Merchant in Mycenae dated to the Late Helladic IIIB1). Accordingly, this trans-cultural “temperie”, characterized by a close network of relationships extended to Europe and the Mediterranean, was called “metallurgical *koinê*” (Peroni 1996: 287).

Although the information about the discoveries and the correct localization of the prehistoric sites are blurred, I shall briefly resume recent contributions published upon the occasion of a congress entitled “*Stefano De Stefani, pioniere della ricerca preistorica veronese*” held in 2002 in Lazise (Verona) (Candelato and Residori 2004: 53-66). The authors attempted to revise the main phases of the discovery and investigations in the area of the pile-dwellings of Garda:
1. **Austrians (1830-1864):** 1851-1860 construction works to deepen the harbor and the relative dredging operations led to the recovery of a vast array of metal and pottery artifacts as well as wooden poles. The majority of the material was brought to the archaeological museum at Zurich and to the Royal Archaeological Cabinet at Vienna. In 1864 von Sacken, chairman of the Cabinet of the Antiquities under the Austrian empire, investigated the area of the Austrian military works and produced a map that localized, for the first time, the exact position of the prehistoric village: at the southernmost part of the lake, near the emissary of the Mincio river (90-190 m away from it). Accordingly to von Sachen, the area of the site was approximately 9467 sm.

2. **Martinati and the Accademia of Verona (1865-1878):** in 1876 the Accademia d’Agricoltura, Arti e Commercio commissioned Martinati to investigate the area near the harbor. Although metalwork was not found on that occasion, the excavators could ascertain the exact position and a sequence of overlapping layers belonging to the pile-dwelling. The investigation continued in the following years with a more rigorous method (1879-1891, De Stefani).

3. **De Stefani (1879-1891):** De Stefani investigated the area of the Central pile-dwelling and gave the first information about a new village, the so called Imboccatura del Mincio, at the entrance of the Mincio river at Lake Garda. Part of the objects recovered at the Imboccatura del Mincio were brought to the Museum “Luigi Pigorini” at Rome, which funded the archaeological campaign at the site.

4. **Balladoro’s collection (1892-1906):** the important discoveries at Peschiera and along the lake shore captured the interest of amateurs and collectors. In the years between 1892 and 1906, the Counts Arrigo and Gustavo Balladoro explored the oriental shore of the lake from Pacengo to Peschiera collecting a vast amount of material, which lay on the lake bed. Subsequently, the collection was donated to the museum at Verona (1921) and is now held in the Museum of Scienze Naturali (Verona).

   At present, one major problem, mostly generated by the different topographic indications given by excavators to the areas investigated, is the exact position of the pile dwelling settlements. Recently, Candelaro and Residori (2004), using published and unpublished data as well as maps belonging to the private archives of the De Stefani family, attempted to localize some of the areas detected in the 19th century. Their study led to the recognition of five main areas:

   1. **South-western lake shore:** pile-dwelling of Bagno or Casino del Bagno: investigated by von Sacken and De Stefani (1879).
2. Pile-dwelling called *Centrale, del Faro, Imboccatura del pesca sabbione, Cava or Bastione settentrionale*: investigated by the Austrians, the members of the Accademia of Verona (1876), Pigorini (1878) and De Stefani (1879).

3. Pile-dwelling called *del Mincio, Mulini/Molini dell’Otello, Setteponti, Paradiso*: investigated by De Stefani, who discovered it. The pile-dwelling of Paradiso appears to be separated from the nuclei of findings at the Molini dell’Otello and it can be referred to a different site.

4. Pile-dwelling called *Bacino Marina*: area explored by Balladoro.

5. Pile-dwelling called *Imboccatura del Mincio*: southern area of the Gulf. The objects found in this area belonged to Balladoro’s collection (Fredella and Sidori 2004: 502). There are some different hypotheses about the correct position of the site: at a point where the Mincio river enters the lake or at a point further south corresponding to the Otello pile-dwelling (Candelato and Residori 2004). Fredella and Sidori (2000: 502) believed that the group of bronze artifacts recovered at “Imboccatura del Mincio” may pertain to “un’area di produzione, non intercettata dal De Stefani, nella zona di abitato definita Palafitta del Mincio, oppure ad una deposizione, sia essa un ripostiglio o un deposito votivo la cui ubicazione non è più identificabile data la mancanza di notizie” (…a production area to be referred to as the pile-dwelling of Mincio, that De Stefani did not detect (see my point 3), or to a deposition of objects – a functional or a votive hoard – whose location is no longer ascertainable owing to the lack of information about the context of the recovery).

Bibliography: Candelato and Residori 2004; Fredella and Sidori 2004; see also Aspes et alii 1982 a; Bietti Sestieri 1973; Peroni 1996.
24. BACINO MARINA (Peschiera del Garda - Verona - Veneto)

Current Location: Museo di Scienze Natuali of Verona.

Date of find: the objects which label “Bacino Marina” belonged to the Belladoro’s collection (1892-1906) which was donated to the Museum in 1921.

Chronology: the analysis of the material remains found at Bacino Marina would attest an occupational period ranging from the Middle Bronze Age to the Recent Bronze Age. Some of the spearheads examined here constitute a new acquisition, thus these pieces were not considered in my previous work (Bruno 2007). As for the latter, I have attempted a chronological attribution on the basis of the already existing classification. Accordingly, two spearheads (24/1, 24/3) may be attributed to the earlier phases of the Middle Bronze Age (ibid. 132: Var. PFO6b); the shape of the specimen 24/2, is very similar to the spearheads with angled blade dated to the Recent Bronze Age (ibid. 80: Type 2); the spearhead 24/4 share similarities with a specimen from Bodio (2/2); close parallels cannot be drawn for the the spearhead 24/5 that, according to its typological characteristics, may fall in a category of spears with long socket and large rounded blade. However, it seems to share similarities with a Middle Bronze Age type that is characterized by spearheads with flamed blade (ibid. 110: Var. L43b).

Examination of the spearheads:

24/1 (2353)

Description: leaf-shaped socketed spearhead. Complete.

Dimensions: Length 158 mm; width 44 mm.

Patina: dull blackish patina, partially stripped away along the edges. Details are locally good.

Manufacture: the piece appears well finished (Fig. A.136); the casting seams were completely removed. The edges appear smooth and rounded. Neither grinding marks nor bevels are evident.

Use: BLADE: the blade remains in good condition. However, the right cutting edge is bowed near the base of the blade (Fig. A.138). It might have resulted from use, though other possibilities cannot be discounted (i.e. accidental damage).
SOCKET: the socket is in good condition.

**Other marks:** a small portion of the right edge near the tip appears sharpened. This evidence is localized in an area where the patina has been stripped off. It may be related to an attempt to reproduce or return the object to its original conditions, according to an invasive conservation treatment that was popular in the nineteen century (Fig. A.137).

24/2 (2355)

**Description:** sub-triangular socketed spearhead. Complete.

**Dimensions:** Length 159 mm; width 39 mm.

**Patina:** dull blackish patina, partially stripped away along the edges (very similar to 24/1). White calcareous encrustation over the length of the socket. Details are partially good.

**Manufacture:** the piece appears well finished (Fig. A.139) and the casting seams were completely removed. The cutting edges appear sharpened (cf. 24/1).

**Use:** the piece appears undamaged or slightly used.

**Other marks:** Part of the wooden shaft is found in the socket; it may be possible that the shaft was intentionally broken prior to deposition.

24/3 (2354)

**Description:** slightly leaf-shaped socketed spearhead. Complete.

**Dimensions:** Length 150 mm; width 36 mm.

**Patina:** Bronze showing. Details are partially good.

**Manufacture:** the piece appears well finished and the casting seams completely removed. The surface is rather rough (Fig. A140). Faint grinding marks run over the length of the blade.

**Use:** the piece appears slightly used as no evident damage is evident over the length of the right edge (Fig. A.141); however my consideration relies upon the examination of only one edge as the other one appears heavily affected by advanced corrosion (Fig. A.142). A hollow portion is evident on the midrib at approximately three quarters the way up the length of the blade (Fig. A.142); the damage is smoothed and it may have resulted from use (?).
SOCKET: it presents a minor damage at its mouth. At that point the wall appears very thin and it is likely that the damage occurred during attempts to secure the wooden shaft to the socket. However these marks may have resulted from use (Fig. A.143).

**Other marks:** no evidence can be identified.

24/4 (1615)

**Description:** socketed spearhead with converging edges. Incomplete with part of the tip missing.

**Dimensions:** Length (maximum) 166 mm; width 30 mm.

**Patina:** dark green patina; some patches of thinner encrustation. Details are locally good.

**Manufacture:** the piece appears well finished and the casting seams were completely removed. No grinding marks are evident.

**Use:** the piece appears used.

**BLADE:** both the edges show bowed areas at approximately one quarter of the way up the length of the blade (Fig. A.144), but apart from that, there is no evidence of concussion marks. The tip is broken away and it may be use-related, as there is no evidence of intentional damage (Fig. A.145). The blade is distorted and it may have resulted from an angled or perpendicular impact (Fig. A.146).

**SOCKET:** the socket presents some distortions at the mouth and one of the rivet holes is cracked. The distortion of the blade and the damage at the rivet hole may be linked (Fig. A.147). The evidence may indicate that the spearhead was perhaps forced or deflected at an awkward angle, concurrently causing the distortion and the breakage of the tip. However, angled impacts or the use of spearheads in parrying blows may split in favour of bowing and score marks (the latter missing) on the cutting edges and on the midrib (Bridgeford 2000).

**Other marks:** no evidence can be identified.

24/5 (749)

**Description:** lanceolate socketed spearhead. Complete.

**Dimensions:** Length 125 mm; width 35 mm.

**Patina:** dull bronze showing (similar to 24/3). Details are good (Fig. A.148: A).
**Manufacture:** the casting seams are completely removed. Faint grinding marks are evident and run down the length of the blade as well as at a point where the blade and the midrib conjoin. The edges appear sharpened, through fine hammering. It Supposedly, the piece may have been cast in sand moulds (cf. Lowe Fri 2007: 50) (cf. 2/1).

**Use:** both the edges and the socket appear in good condition. However one of the rivet holes appears strained and it may be due to use (Fig. A.148: C). The holes on the blade at a point where the midrib and the blade conjoin as well as on the socket may have been caused by a loosely-attached shaft, which while moving around weakened and broke the thin metal at those points (Fig. A.148: B-C). However, another possibility is that the holes may be attributed to an insufficient fill of molten metal in that part.

**Other marks:** no evidence can be identified.
25. “IMBOCCATURA DEL MINCIO” (Peschiera del Garda - Verona – Veneto)

Current Location: Museo di Scienze Natuali di Verona (Verona).

Date of find: De Stefani (1879-1891) (see above: point 5). Objects belonged to Balladoro’s collection.

Chronology: the spearhead/projectile I have examined in the Museum of Verona belongs to a type which is unknown in the Italian Bronze Age, at least up to now. However, a parallel can be drawn with two spearheads from a cist grave at Volos (Iolkos) (Avila 1983: 15, no. 29) and from Schimatari (?) (Thebes), whose context of recovery is unfortunately unknown (Avila 1983: 17, no. 33). Avila assigned the two specimens respectively to the Späthelladisch III A (no. 29) (end of the Middle Bronze Age – early Recent Bronze Age) and to a generic Späthelladisch I and II (no. 33) which would thus correspond to a period including the entire Italian Middle Bronze Age (Fig. 5).

![FIG. 5. 1. Spearhead from "Imboccatura del Mincio" (Peschiera, Verona) (Photograph: author); 2. Spearhead from Schimatari (?) (Thebes); 3. Spearhead from a cist grave at Volos (Iolkos). (2-3 adapted from Avila 1983, Taf. 4:29 and 5:33). Scale drawings 1:2]
While some typological characteristics clearly diverge from the piece considered here (section of midrib and socket), the general shape of the two specimens from Greece makes them very close to the piece from Peschiera. Considering the factors mentioned so far, it is possible to assign the spearhead from the “Imboccatura del Mincio” pile-dwelling to the Middle Bronze age or probably to a later period ranging from the end of the Middle Bronze Age to an early phase of the Recent Bronze Age.

Examination of the spearhead:

25/1 (1614)

Description: socketed spearhead/projectile. Complete.

Dimensions: Length 113 mm; width 21 mm.

Patina: glossy dense olive patina partially stripped away; bronze patches showing. Details visible.

Manufacture: the piece appears well finished and the casting seams were completely removed. Faint grinding marks are locally evident over the length of the blade. A void is evident on the blade approximately halfway up the length of the blade. It may be a casting flaw, whose extent has been exaggerated through use (Fig. A.149).

Use: BLADE: the blade appears used and the cutting edges show use-related marks and evidence of re-sharpening (Fig. A.150). One of the cutting edges seems to have been damaged in antiquity. The other cutting edge shows an asymmetry which might indicate an attempt to smooth down an old damage (Fig. A.151).

SOCKET: the socket is in fine condition, though it displays minor damage around its mouth (Fig. A.152). A hollow is evident on one side of the socket and it may have resulted from use (Fig. A.152).

Other marks: no evidence can be identified.
26. BOR DI PACENGO (Pacengo - Verona - Veneto)

**Current Location:** Museo di Scienze Natuali of Verona.

**Date of find:** The first information about the pile-dwelling of Bor was given by Alberti di Colà in 1864. Due to the War of Independence, the archaeological investigation was interrupted until 1876. In that year Cavazocca produced a topographic map with the position of the poles and their distance from the shore of the lake. In 1893, the dry season caused a decrease of the lake-level, making it possible to recover a certain number of objects using tongs. All the artefacts which belonged to Belladoro’s collection were found among both the poles of the pile-dwelling and near the shoreline. Balladoro’s collection was donated to the Museum in 1924. Recent investigations (1976-1977) revealed that the site – at approximately 100 m off the shore of the lake - extended over an area of ca. 1200 sm (Simeoni 1992).

**Chronology:** The majority of the artefacts found at Bor can be assigned to the earlier phases of the Middle Bronze Age (MBA 1-2) (Aspes and Fasani 1967-1968: 84-91; Aspes and Borghesani 1980: 77-81). Accordingly, the spearheads can also be attributed to the same chronological phase (Bruno 2007: 119, 188-189).

**Bibliography:** Simeoni 1992; Aspes and Fasani 1967-1968.

**Examination of the spearheads:**

26/1 (388)

**Description:** Flamed socketed spearhead. Complete.

**Dimensions:** Length 132 mm; width 41 mm.

**Patina:** Black patina stripped away; bronze showing. Good details (Fig. A.153).

**Manufacture:** The piece appears well finished and the casting seams were completely removed. Faint longitudinal grinding marks are evident at a point where the blade and the midrib conjoin. The cutting edge appear sharpened (Fig. A.154).

**Use:** The piece appears slightly used or unworn.

**BLADE:** The blade does not show concussive marks. A slightly bowed area on one of the cutting edges (Fig. A.155) represents the only evidence related to use, though other interpretations cannot be ruled out (i.e. post depositional damage).
SOCKET: The socket is in fine condition, thought with minor damage around its mouth (Fig. A.156).

Other marks: no evidence can be identified.

26/2 (387)

Description: flamed socketed spearhead. Complete.

Dimensions: Length 115 mm; width 34 mm.

Patina: dull black patina; some bronze patches showing. Some white encrustations are evident over the surface of the spearhead. Details are partially obscured.

Manufacture: the piece appears well finished and the casting seams were completely removed. Faint bevels run over the length of the blade (Fig. A.157). Longitudinal grinding marks are evident where the blade and the midrib conjoin. The blade appears sharpened.

Use: the piece appears slightly used and no evidence can be related to use. The socket remains in good condition (Fig. A.158)

Other marks: no evidence can be identified.
Current Location: Ministero per i Beni Culturali e Ambientali. Soprintendenza Archeologica per il Veneto Nucleo Operativo di Verona (Verona).

Date of find: the area of Finilone was investigated between 1995-1996. Archaeological surveys revealed the presence of three sites:

- The first settlement is located at the north part of the area. Ceramic fragments can be assigned to the culture group of ‘Vasi a Bocca Quadrata’. Pieces characterized by typical square mouths can be dated to the early fourth millennium BC.

- Finilone: a settlement encircled by an embankment. The material remains, which mostly includes bronze, ceramic and bone objects, have been attributed on typological grounds to the Recent Bronze Age;

- Finilone Valle: at approximately 200 m south-east from Finilone, a third settlement was detected. It is located in a paleo-channel; the analysis of the material found there attests an occupational phase ranging from the Middle Bronze Age to the Recent Bronze Age, with a peak at the end of the Middle Bronze Age (MBA 3); bone- and bronze-working are attested at the site.

Salzani (1996: 261-271) pointed out the possibility that some of the objects found in the area of Finilone belonged to violated tombs, as a vast amount of amber beads and a pair of pins found together might indicate. Moreover, the relation between the two settlements, whose chronology partially overlaps, remains still unclear. However, in a recent work Fasani (2002: 129) deemed that the site at Finilone Valle might be referred to as a production centre, highly specialized in bronze- and bone-working.

Chronology: the chrono-typological study of the material found at Finilone Valle assigned the settlement to a period ranging from the Middle Bronze Age to the Recent Bronze Age, with a peak at the end of the Middle Bronze Age (MBA 3). The spearhead found there is attributed to the end of the Middle Bronze Age on typological grounds (Bruno 2007: 197).


Examination of the spearhead:

27/1 (IG 77428)
Description: leaf-shaped socketed spearhead. Complete.

Dimensions: Length 132 mm; width 29 mm.

Patina: glossy olive patina with some brownish patches. Good details.

 Manufacture: the piece appears polished and smoothed. The casting seams were completely removed. Faint longitudinal grinding marks are evident on the blade. The cutting edges appear bevelled and sharpened (Fig. A.159).

Use: the piece appears slightly used or unworn.

Other marks: no evidence can be identified.
28. MOLINO DI NOGARA (Legnago - Verona)

Current Location: Ministero per i Beni Culturali e Ambientali. Soprintendenza Archeologica per il Veneto Nucleo Operativo di Verona (Verona).

Date of find: the site was found between 1985 and 1996 following archaeological excavations. The riverine settlement was located in the paleo-channel of the Tartaro river a few hundreds metres from the cemetery of Olmo di Nogara, which was investigated in the same years (Fig. 12). Because of the position, it probably must be referred to as a pile dwelling site. The settlement and the cemetery were separated by a river; this physical separation might be reasonably charged with symbolic connotation (Salzani 2005 a: 287).

Chronology: the typological analysis of the material found during the excavations at the settlement of Molino di Nogara can be assigned to a period ranging from the Middle Bronze Age to the Recent Bronze Age (Salzani 2005 a: 288). Therefore the settlement is coeval with the neighbouring cemetery of Olmo di Nogara. It may be worth noting that only one spearhead has been found and it comes from the settlement. Contrarily, the cemetery includes a conspicuous number of tombs containing swords. The piece with a sub-triangular blade and a rather long socket can be compared with the specimen from the deposit of Oggiono-Ello (3/3), whose assemblage is assigned to the end of the Middle Bronze Age (MBA 3).


Examination of the spearhead:

28/1 (IG VR 62645)

Description: sub-triangular socketed spearhead. Complete.

Dimensions: Length 116 mm; width 29 mm.

Patina: uneven blackish patina; some bronze patches showing. Details are locally good (Fig. A.160).

Manufacture: the casting seams were completely removed. The edges may have been originally bevelled. Probably the cutting edges have been sharpened through course hammering, as two small tool indentations on the left edge at the base of the blade may indicate (Fig. A.161). The spearhead appears poorly finished: surface pitting is
evident and it was not smoothed away during the finishing work. The artefact shows some voids in the vulnerable parts of the casting: the midrib and above the mouth of the socket (Fig. A.161, 162). No grinding marks are evident. All these evidence might reflect poor finishing work after casting.

**Use:** no clear evidence can be related to use.

**Other marks:** no evidence can be identified. The socket is damaged and flattened at its mouth and the metal is torn; this damage may have been caused during the removal of the wooden shaft or through use; however, due to the fact that the wall of the metal is very thin, the damage may be also attributed to post-depositional processes (Fig. A.162).
Current Location: Ministero per i Beni Culturali e Ambientali. Soprintendenza Archeologica per il Veneto Nucleo Operativo di Verona (Verona).

Date of find: 1920-1960: some objects recovered during agriculture work were acquired by Maria Fioroni for the Museum at Legnago; 1981: the ploughing area was subjected to surveys; 1990, 1997, 2004: the area was subjected to regular archaeological investigations (Salzani 2006).

Chronology: the full assemblage at Corte Lazise can be assigned to the Recent Bronze Age - Early Final Bronze Age (FBA 1). On the basis of a parallel with some specimens contained in the Pila del Brancón hoard, erroneously assigned to the only Recent Bronze Age (see below for a wider discussion about the chronology of the full assemblage), the spearhead recovered at Corte Lazise was attributed to the Recent Bronze age (Bruno 2007: 192, 193). On the other hand, the spearhead was compared with a piece found at Sant’ Ambrogio (21/1), where the typological study of the material remains revealed a wide date range (from the Middle Bronze Age to the Recent Bronze Age), so that the chronological attribution suggested for Corte Lazise would not appear completely wrong. Seemingly, it would not contrast with the context of Corte Lazise, a multi depositional zone where the objects were given up over an extended period of time. However, Salzani (2006: 31) drew a parallel with a spearhead from the Poggio Berni hoard, attributed to the Recent Bronze Age - early Final Bronze Age (Carancini and Peroni 1999, Tav. 28.45). The two pieces have straight bases in common, although they differ in other features of the blade, which is stepped in the specimen from Poggio Berni. Based on these considerations, it is possible to attribute the spearhead examined to the Recent Bronze Age - Early Final Bronze Age (FBA 1).

Context of find: Corte Lazise is located in the Valli Grandi Veronesi. A number of metal objects were recovered over an extended period of time in proximity to one another. The evidence revealed that a specific area (75 m x 15) that corresponds to the river bank of a paleo-channel, was intentionally selected for the deposition of metalwork. The analyses revealed that the river, which was already extinct in the Bronze Age, was replaced by a basin of spring water with a very low-speed current. Part of the objects recovered here seem to be in their original spot, while some others were found a few meters away. The association of metal findings with a wet place led the
author to interpret the objects as votive depositions in the river (Salzani 1994 b, 2006).

**Context:** some of the artefacts were found in the last century during agriculture works, while some others were recovered in the past few decades following archaeological investigations. The full assemblage at Corte Lazise includes (for the typo-chronological attribution see Salzani 2006: 31, 33):

- Ten swords (only five complete) attributed to the “Terontola” type (Recent Bronze Age–early Final Bronze Age). In the first half of the last century, two swords were acquired by Maria Fioroni for the Museum at Legnago (Verona) (Castelletti 1970: 249, 250). In 1980 two more pieces were retrieved by farmers.
- One spearhead
- Three daggers attributed to the “Cascina” and the “Pertosa”, var. A type (Recent Bronze Age);
- Six knives. Some of them are attributed to the Baierdorf/Scoglio del Tonno type (Recent Bronze Age);
- One socketed arrowhead (advanced phases of the Middle Bronze Age – Recent Bronze Age);
- Six razors: four of them can be attributed to the “Croson di Bovolone” type (Final Bronze Age). A fifth specimen can be assigned to the “Timmari” or “Pianello” type (Final Bronze Age);
- Six pins. The majority of them can be attributed to the Recent Bronze Age;
- One rounded bow fibulae (Final Bronze Age);
- Tweezers (early Final Bronze Age);
- Miscellaneous: four buttons (early Final Bronze Age); five rivets, probably belonging to a scabbard; two decorative nails; two beads, which are unlikely to be elements of a necklace; two cylindrical objects, decorated with circular engravings (Final Bronze Age); eight fragments of bronze sheets.

**Bibliography:** Salzani 1994 b; Salzani 2006.

**Examination of the spearhead:**

29/1 (IG VR 123572)
Description: lanceolate socketed spearhead. Almost complete with the cutting edges damaged.

Dimensions: Length 169 mm; width (maximum) 39 mm.

Patina: uneven dark green patina partially stripped away; there are some lighter green and reddish patches. Details largely obscured.

Manufacture: The casting seams were completely removed. The surface appears smoothed and polished where advanced corrosion has not obscured its original condition. A faint bevel runs over the length of the cutting edges, even though it is only evident at the base of the blade (Fig. A.163).

Use: BLADE: the blade is heavily battered and corrosion build-up may have exaggerated the extent of the damage. No clear evidence can be related to use.

SOCKET: the socket is damaged on one side; a longitudinal crack, which runs over the length of the socket from its mouth to the rivet hole, is evident on the same side. Accordingly, it may indicate use. However, it may be possible that the two marks occurred simultaneously during the removal of the wooden shaft, thus, as a result of a specific action (Fig. A.164). No additional evidence can be accounted for use.

Other marks: on one of the cutting edges jagged rips are evident (Fig. A.165). It seems neither possible that those occurred during use nor that they were tolerated until deposition. Contrarily, it may be rather likely that the distortions indicate deliberate destruction prior to deposition. It may be possible that the traces of use were ultimately obscured by deliberate destruction. A series of horizontal scratches are evident on the midrib at approximately three quarters of the way up the length of the spearhead (Fig. A.166). At present, these marks cannot be accounted for, although they may be infused with symbolic connotation. Obviously, it must remain a matter of speculation due to the lack of more punctual evidence. There are two other longitudinal scratches in the same area, but they must have resulted from modern damage, as they cut through the patina.
**30. PILA DEL BRANCÓN (Nogara – Verona)**

**Current Location:** Ministero per i Beni Culturali e Ambientali. Soprintendenza Archeologica per il Veneto Nucleo Operativo di Verona (Verona).

**Date of find:** the archaeological campaigns at the Olmo di Nogara cemetery (see above Molino di Nogara: 28) were conducted in conjunction with surveys which interested a wide area. In 1993 at approximately 1.5 km south of the cemetery of Olmo di Nogara some metal objects were found on a peaty layer on the bank of the Tartaro paleo-channel. In 1994 the archaeological investigation conducted in that area, could not ascertain the original position of the metal artefacts because it was altered by modern construction works, which involved the river bank. However, it was assumed that the hoard lay in a peaty layer as the soil contained in some objects may indicate. In the years that followed, the area was subjected to regular surveys, which led to the recovery of further metalwork. In 1997 it was possible to detect the original spot of the hoard owing to the landslide of a portion of the left river bank of the Tartaro river. It coincided with the finding of a sword stuck into the ground and five other swords, two of which were folded together; two small jars and a bowl were also found ca. 3 m north (Salzani 1998: 66-71).

**Chronology:** debate has concentrated on the chronological attribution of the hoard in the past years and I shall limit myself to give a brief account of it. Salzani (1994 a, 1998) Bagolan and Leonardi (2000: 25) attributed the hoard to the early Final Bronze Age (FBA 1). Jankovits (1998/1999), who studied the defensive armour of the hoard assigned the full assemblage to the Br D-Ha A1 (13th-12th century BC, mostly Recent Bronze Age in Italian chronology), on the basis of a parallel with the warrior’s grave at Čaka (Jankovits 1998/1999: 92). Peroni and Carancini (1999: Tav. 29; see also Peroni 1996: 237), who carried out a typo-chronological study of the Italian Bronze Age hoards, dated the majority of the objects to the Recent Bronze Age. Pacciarelli (2006: 253) assigned the hoard to an advanced phase of the Recent Bronze Age, which corresponds to the beginning of 12th century BC. Finally, a slightly extended data range (the advanced phase of the Recent Bronze age or even a period between the Recent Bronze Age and the early Final Bronze Age, was advanced by other scholars (Cupitò and Leonardi 2005 a: 490; 2005 b: 152; Salzani 2002: 159).
**Context of find**: archaeological investigations revealed that the hoard was deposited on the bank of the Tartaro paleoriver. The excavators could find neither a pit nor a container in which the full assemblage was deposited (Salzani 1998: 66-71).

**Contents**: the metalwork, which was recovered at Pila del Brancón over an extended period of time consists in: offensive weapons (ca. 51 spearheads, 12 swords, 2 daggers and a fragment of an axe), defensive equipment (73 metal sheets to be attributed to one helmet, gorget, armour provided with nails and greave) and fragments of a bucket of the Kurd type. Metallographic analysis revealed that the bronzes have been produced in Italy (Jung 2009: 75). The hoard has been the centre of a debate concentrated on the interpretation of the objects deposited in a wet place and on the significance of the context as a whole. The assemblage was primarily considered as a founder’s hoard (Salzani 1994 a). Subsequently, a detailed analysis of the objects, which appeared unworn, intentionally broken and exposed to fire, led to a votive interpretation of the hoard (Jankovits 1998/1999; Salzani 1998). Two later scholars provides different opinions (Cupitò and Leonardi 2005 a; 2005 b), stating that some of the objects appeared used, with concussion marks resulting from combat. Accordingly, they interpreted the hoard as booty. In this perspective, the weapons deposited may have been taken from the enemies defeated, and, once defunctionalized, they may have been stored as a quantity of metal to be used in times of shortage and stress (Bagolan and Leonardi 2000: 25-26). In regard to this, the simultaneous deposition of weapons would not represent a votive deposit, rather the hidden structures of power in a period of change characterized by conflictuality and high competition between communities (Bagolan and Leonardi 2000: 25: note 25).


**Examination of the spearheads:**

30/1 (VR 26516)

**Description**: lanceolate socketed spearhead with convergent edges. Almost complete with the cutting edges damaged.

**Dimensions**: Length 195 mm.

**Patina**: bronze with dense green patches. Details are good.
Manufacture: The casting seams were removed. The tip is rounded, the blade stepped and the cutting edges appear sharpened. No grindings marks are evident (Fig. A.167).

Use: the blade and the socket appear heavily damaged, but no clear evidence can be related to use.

Other marks: the spearhead has been exposed to fire.

BLADE: part of the cutting edges has been cut away probably using a sharpened instrument. On one side (Fig. A.167) the cutting edge has been torn and the metal folded up.

SOCKET: the socket was flattened intentionally as hammer indents may indicate and its mouth was closed with the clear intention to make the spearhead unusable. It is likely that this damage has occurred after the shaft was removed. The bronze rivet is still in place (Fig. A. 168). There is an oblique score on the midrib, that may have probably resulted from modern damage.

30/2 (VR 26512)

Description: lanceolate socketed spearhead with convex edges. Almost complete with the cutting edges damaged.

Dimensions: Length 200 mm.

Patina: bronze with dense green patches. Details are good.

Manufacture: The casting seams were removed. The blade is stepped and the cutting edges appear sharpened. No grindings marks are evident (Fig. A.169).

Use: no evidence can be accounted for use. The blade edges appear in good condition where the intentional damage has not obscured them.

Other marks: BLADE: the spearhead is slightly bent. On the right side, a longitudinal section of the blade edge has been cut away (Fig. A.169) (cf. 30/1). Also in this case, the metal has been torn. The left cutting edge appears bowed over its length (Fig. A.170).

SOCKET: the socket appears crushed; hammer indents are not evident, though they may have been inflicted beyond the extent represented by the surviving section of the socket (Fig. A.170). There is a score approximately halfway up the length of the spearhead, but it may be referred to as modern damage since it cuts the patina.
30/3 (VR 26512)

**Description:** lanceolate socketed spearhead with convex edges. Incomplete with the tip missing.

**Dimensions:** Length (maximum) 170 mm; width 40 mm.

**Patina:** rough and thick dark green patina; some bronze patches showing. Details are locally good.

**Manufacture:** the casting seams were removed. A rib runs over the length of the blade on both sides. The cutting edges appear sharpened. No grindings marks are evident (Fig. A.171).

**Use:** no evidence can be accounted for.

**Other marks:** the lower half of the blade and the socket appear in good condition; contrarily, the upper half of it appears heavily damaged.

**BLADE:** the upper half of the blade is bent, forming a sort of “wave” (Fig. A.172). On the right side, portion of the cutting edges has been folded up: approximately halfway up the length of the blade and near the upper break. The exposure to fire gives a “nibbled” appearance to the upper half of the blade. The tip may have been intentionally separated from the rest of the blade, perhaps through hammering, and the fact that the midrib is flattened on one side might strengthen this supposition.

**SOCKET:** the socket is slightly flattened. A part from that, it appears in good condition. There is a faint longitudinal score on the midrib at a point where the blade joins the socket; it seems to have been inflicted in antiquity. However the mark cannot be accounted for: it may be related to use, though other interpretation cannot be ruled out.

30/4 (VR 26506)

**Description:** fragment of a spearhead blade.

**Dimensions:** Length (maximum) 110 mm.

**Patina:** rough and thick dark green patina; some bronze patches showing. Details are locally good.

**Manufacture:** The blade presents a double step and the cutting edges appear sharpened. No grindings marks are evident (Fig. A.173).
Use: No evidence can be accounted for use.

Other marks: part of the left edge in the tip area has been cut away. Near the lower break the blade is cracked. It may be possible that the spearhead was broken through bending. Hammer indents are not evident, but, perhaps, they may have been inflicted beyond the extent represented by the surviving fragment. A deep cut is evident above the lower break on the left edge (Fig. A.174) and it is likely to be related to the breakage process.

30/5 (VR 26511)

Description: lanceolate socketed spearhead with convex edges. Complete with the blade edges damaged.

Dimensions: Length 170 mm; width (maximum) ca. 40 mm.

Patina: rough and thick dark green patina; some bronze patches showing. Details are locally good.

Manufacture: the casting seams were removed. A rib runs parallel to the cutting edges.

The cutting edges appear sharpened. The surface appears polished over the length of the socket. No grindings marks are evident (Fig. A.175).

Use: No evidence can be accounted for use.

Other marks: BLADE: the blade edges are heavily damaged for approximately three quarters of their length. The cutting edges, made softer by exposing them to fire, are torn and contorted (Fig. A.175, 176). A group of small horizontal scratches are clustered on the midrib (Fig. A.177). At present the marks cannot be accounted for. However, the fact that they are very close together may exclude any connection to use or combat. Contrarily, it may be more likely to interpret them as deliberate damage.

SOCKET: the socket appears in good condition apart from an indentation at its mouth.

30/6 (VR 26568)

Description: lanceolate socketed spearhead with convex edges. Complete.

Dimensions: Length 250 mm; width 48 mm.

Patina: bronze with dull dark green patches. Details are locally good.
Manufacture: the casting seams were removed and the piece is well-finished. The double-stepped blade appears sharpened through fine hammering. The midrib is squared in cross section. However, the original surface, where it is not obscured by the patina seems rough. No grindings marks are evident (Fig. A.178-179).

Use: the cutting edges show some small damage on the edges: minor bows and notches on both the left and the right edge (Fig. A.179). Apart from that, the edges remain in good condition. They may have resulted from use. However, due to the treatment to which the whole assemblage was subjected, it appears very difficult to distinguish between use and intentional damage. If we suppose that the spearhead was used during its life-cycle, the evidence seems to show that the piece examined was slightly used or, perhaps, used for a short length of time.

Socket: the socket appears in good condition.

Other marks: no evidence can be related to this process. A deep oblique score runs over the midrib and the blade. However, it may be associated with modern damage as it cuts through the patina (Fig. A.180).

30/7 (VR 26515)

Description: lanceolate socketed spearhead with convex edges. Complete.

Dimensions: Length (maximum) 210 mm; width (maximum) 45 mm.

Patina: thick dark green patina with some bronze patches showing. Details are partially good.

Manufacture: the casting seams were removed. The blade presents a double step, which is visible only intermittently at its base and approximately halfway up its length, and thus at the points where intentional damage was not so destructive (Fig. A.183 a, b). The cutting edges appear sharpened. No grindings marks are evident (Fig. A.181). The small holes both on the blade and at the point where the midrib and the blade conjoin may have resulted from the release of gas during exposure to fire (Fig. A.183 b).

Use: no evidence can be attributed to use. The socket remains in good condition.

Other marks: BLADE: the blade edges are heavily damaged, showing severe distortions over their length. The metal was hammered and folded backward (Fig. A.182). The tip was bent, probably through hammering as the flattened midrib seems to indicate (cf. 30/3). It may be worth noting that the metal does not present cracks where it
curves. It is likely that the blade was worked after it was softened by exposure to fire. Two oblique scratches are evident in the tip area. However, they may be associated with modern damage as they cut through the patina.

30/8-9 (VR 26693)

Description: two fragments of socketed spearhead.
Dimensions: undefinable.
Patina: thick dark green patina with some reddish patches; some bronze showing. Details obscured.
Manufacture: The casting seams were removed. No grindings marks are evident. No other evidence can be accounted for.
Use: no evidence can be identified.
Other marks: the two pieces are fused together. There is the evidence of a longitudinal indentation: it may indicate the impression of a cylindrical object on which it has been beaten against and folded over (Fig. A.184). The cutting edges of the second fragment are torn and folded over (Fig. A.185). It may be worth noting that all the cuts and breaks appear fused, probably due to a longer exposure to fire. It is possible that in this case the two spearheads were first broken and subsequently burnt. It is also likely that, at least in the case of the blade fragment, that the upper break was made by hammering (Fig. A.185). No clear evidence can be associated with the lower break.

30/10 (VR 26505)

Description: lanceolate socketed spearhead with convex edges. Almost complete with part of the tip and longitudinal portions of the cutting edges missing.
Dimensions: Length (maximum) 173 mm.
Patina: uneven rough dark green patina; some reddish and bronze patches showing.
Details are partially visible.
Manufacture: the casting seams were removed. A faint step is only visible on half of the blade length (Fig. A.186). The surviving cutting edges appear sharpened through fine hammering. No grindings marks are evident.
Use: according to the condition of the edges, no evidence can be attributed to use. The socket remains in good condition.

Other marks: BLADE: the blade edges are heavily damaged. Large portions of the cutting edges have been cut away: on the left side at the base of the blade and in the tip area on both sides. The cutting edges were heavily contorted from the heat of the fire (Fig. A.187). On the right cutting edge, at a point near the tip, there is an indent (Fig. A.188), which was probably inflicted by pushing a cylindrical instrument or object in the soft metal. The upper break is flattened.

30/11 (VR 26525)

Description: fragment of lanceolate socketed spearhead with most of the blade missing.
Dimensions: Length (maximum) 120 mm.
Patina: thick dark green patina with some bronze patches showing. Details are largely obscured (Fig. A.189).
Manufacture: the casting seams were removed. A faint double step is only visible on one side near the tip (Fig. A.190). No grindings marks are evident.
Use: according to the condition of the edges, no evidence can be attributed to use. The socket remains in good condition.
Other marks: BLADE: the blade edges are heavily damaged and large portions of them have been cut away. No marks can be associated with the upper break, though they could have been inflicted beyond the extent represented by the surviving fragment.

30/12 (VR 26526)

Description: fragment of lanceolate socketed spearhead with most of the blade missing.
Dimensions: Length (maximum) 110 mm; width (maximum) 32 mm.
Patina: dull dark green patina; bronze showing. Details are locally good.
Manufacture: the casting seams were removed. A double step runs over the length of the blade. Small holes are visible on the blade and at a point where the midrib and the blade conjoin; they may be the result of gas impurities released during casting. The cutting edges appear sharpened through fine hammering. Grindings marks run parallel to the cutting edges (Fig. A.191).
Use: the evidence of use cannot be assessed with confidence due to the nature of the context: the distortion, which is evident on the right cutting edge, may account for use, though other interpretations cannot be ruled out (Fig. A.192). Apart from that, the cutting edges and the socket remain in good condition.

Other marks: at the upper break, the metal is slightly bent, indicating, perhaps, that the piece was broken through pushing the overhanging end of the spearheads till it broke. However, it is also possible that hammer blows have been inflicted beyond the extent represented by the surviving fragment. Another possibility is that the breakage may have occurred through use. No other evidence can be identified. In this case, it may be worth noting that the piece is in good condition, compared with the other pieces which withstood fire.

30/13 (VR 26495)

Description: fragment of socketed spearhead with most of the blade and the socket missing.

Dimensions: Length (maximum) 79 mm.

Patina: thick dark green patina with some bronze patches showing. Details are largely obscured.

Manufacture: no evidence can be identified.

Use: no evidence can be accounted for use.

Other marks: the fragment has been heavily damaged. The blade edges present some distortions over their length. Part of the cutting edges have been cut away and torn (Fig. A.193); exposure to fire seems to be rather evident: (1) the metal, which is partially separated by the cutting edge, appears fused; (2) small holes on the surface of the blade and in section may have resulted from the gas released during the exposure to fire. All these evidence may indicate that the fragment was damaged before it was burnt (?) (cf. 30/8-9). The midrib has been crushed by inflicting a series of blows. Hammer indentations are evident at the upper and the lower break (Fig. A.194).

30/14 (IG 26530)

Description: fragment of socketed spearhead with most of the blade missing.
**Dimensions:** Length (maximum) 70 mm.

**Patina:** dull dark green patina with some bronze patches showing. Details are partially good.

**Manufacture:** the casting seams were removed. No grindings marks are evident. Small holes are evident around one rivet hole and they may be associated with the gas released during the exposure to fire (Fig. A.196). No other evidence can be identified.

**Use:** no evidence can be accounted for use.

**Other marks:** **BLADE:** the fragment has been heavily damaged. On the right side the cutting edge has been cut away. On the left side the blade has been folded over and the portion of metal in contact with the midrib is fused together with it. A small piece of metal is stuck on the midrib (Fig. A.195). The midrib presents some indentations below the upper break, which are visible in sections; at the break point the metal appears deformed by fire (Fig. A.196). It may be possible that the objects were damaged before the exposure to fire. However, it may be also possible that the metal was either torn apart by the smith while hot or broken before it withstood fire (cf. 30/8-9).

**SOCKET:** it remains in good condition.

30/15 (VR 26509)

**Description:** lanceolate socketed spearhead with convergent edges. Incomplete with part of the tip missing.

**Dimensions:** length (maximum) 195 mm; width 44 mm.

**Patina:** much of the original bronze remains; dark green patches showing. Details are good.

**Manufacture:** the casting seams were removed. The blade is stepped and the cutting edges sharpened. No grindings marks are evident.

**Use:** the cutting edges appear notched at different points over the length of the blade: two marks at the base of the blade (left side) and one approximately halfway up the length of the blade (right side). A score is evident on the midrib and it continues on the left edge; it probably caused the slight distortion of the spearhead (Fig. A.197). All the evidence can be reasonably attributed to use; however, as I have already
pointed out above, this interpretation should be treated with caution in the light of
the deliberate damage the objects have been subjected to.

**Other marks:** the only evidence that accounts for purposeful damage may be that related
to the separation of the tip from the rest of spearhead, probably through an angled
blows (?). It seems worth noting that in this case evidence of fire is not identifable.

30/16 (VR 26522)

**Description:** lanceolate socketed spearhead with convex edges. Complete.

**Dimensions:** Length 168 mm; width 38 mm.

**Patina:** bronze with dark green patches. Details are good.

**Manufacture:** the casting seams were removed. The blade has a double step and the
cutting edges are sharpened. Grindings marks are evident at a point where the midrib
and the blade conjoin (Fig. A.200). There are small holes on the channel and they
may be referred to as casting flaws.

**Use:** BLADE: the blade edges do not seem very worn and the only marks that can be
accounted for are two slightly bowed areas on the left cutting edge and an oblique
score on the tip (Fig. A.198, 199). They can be attributed to use, though other
interpretations cannot be ruled out (cf. 30/15).

**SOCKET:** the socket remains in good condition.

**Other marks:** no evidence can be accounted for. It is worth noting that the piece does not
seem to have withstood fire.

30/17 (VR 26521)

**Description:** lanceolate socketed spearhead with convergent edges. Almost complete with
the cutting edges damaged.

**Dimensions:** Length 230 mm; width 50 mm.

**Patina:** dull dark green patches with some bronze patches showing. Details largely
obscured.

**Manufacture:** the casting seams were removed. The blade has a double step which is
faintly visible on the right edge (Fig. A.201). Grindings marks are not evident. No
other evidence can be identified.
Use: BLADE: the blade appears heavily battered, but no clear evidence can be related to use, as the cutting edges have been deliberately damaged.

SOCKET: the socket is in good condition.

Other marks: BLADE: the cutting edges have been cut away. Indentations are evident on both edges and they may have been inflicted through hammering (Fig. A.202). The midrib remains in good condition.

SOCKET: the socket does not show any damage.

The piece shows clear evidence of exposure to fire.

30/18 (VR 26504)

Description: lanceolate socketed spearhead with convergent edges. Incomplete with part of the tip broken and both the edges damaged.

Dimensions: Length 163 mm.

Patina: bronze with some dull blackish patches. Details locally good.

Manufacture: the casting seams were removed. On the left side the blade shows a double step which is visible only on a small portion of the blade. The surviving cutting edge appears sharpened (Fig. A.203). Grindings marks are not evident.

Use: BLADE: no clear evidence can be related to use as the cutting edges have been deliberately damaged. On the midrib, just above the socket, an oblique score is evident and it is most likely to have been inflicted in antiquity. It may have resulted from use, though intentional damage could be another possible interpretation.

Other marks: BLADE: the blade appears heavily damaged: on the left side a longitudinal portion of the blade, which mostly correspond to the width of the second step (second step from the midrib), has been cut away, while near the tip the metal has been torn; on the other side the profile of the cutting edge appears bowed and the damage probably inflicted through hammering (Fig. A.204). The tip appears intentionally separated from the rest of the spearhead possibly following a single angled blows. The surface of the blade is very rough and the porosity appears especially localized in those parts where intentional damage is evident; it could probably be interpreted as the result of exposure to fire.

SOCKET: the socket does not show any damage.

30/19 (VR 26503)
Description: lanceolate socketed spearhead with convex edges. Complete.

Dimensions: Length 110 mm; width 40 mm.

Patina: bronze with some dense green patches. Details are good.

Manufacture: the casting seams were removed. The cutting edges appear sharpened. The surface is smooth.

Use: BLADE: no clear marks can be related to use. On the right side, just below the middle of the spearhead, there is a small bowed area, though it cannot be assigned to use with confidence. The tip seems to have been reworked and the edges in the tip area re-sharpened. A deep score, which is also visible in section, is evident on the tip. At present it cannot be accounted for, though it may represent a mark inflicted after the blade was re-shaped. However, it may also be related to an old damage not completely smoothed down (Fig. A.205).

Other marks: BLADE: no evidence can be identified on the blade.

SOCKET: the socket appears heavily damaged. It appears flattened and hammer indentations seem to be in connection with this. The latter probably caused the crack which is evident over the length of the socket. Above the socket a second crack is at a right angle to the midrib. It may represent the intention to separate the socket from the blade, which, however, was not concluded (Fig. A.206). It may be worth noting that there is no clear evidence of exposure to fire.

30/20 (VR 26501)

Description: lanceolate socketed spearhead with convex edges. Complete.

Dimensions: Length 143 mm; width 35 mm.

Patina: bronze with some dense green patches. Details are locally good.

Manufacture: the casting seams were removed. A faint step runs over the length of the blade and it is only evident intermittently. The cutting edges appear sharpened through fine hammering. The surface is rather rough on the cutting edges and in the tip area, while it appears polished and smoothed on the midrib and on the socket. Grindings marks are not evident (Fig. A.207).

Use: BLADE: the profile of the cutting edge shows some bows and notches (Fig. A.208). They may be related to use, though other possibilities cannot be ruled out (cf. 30/15).

SOCKET: the socket appears in good condition.
Other marks: a series of small oblique scores are evident on the midrib. At present, these marks cannot be accounted for. Interestingly, the latter seems to be a continuation of the marks on the extreme edge as shown in the close-up in Fig. A.209 (it may be a coincidence and at present it must remain a supposition). It may be worth noting that the evidence of a complete exposure to fire is not clearly evident on this piece.

30/21 (VR 26510)

Description: lanceolate socketed spearhead with convergent edges. Complete.

Dimensions: Length 178 mm; width 41 mm.

Patina: bronze with some dense green patches on the socket and on the tip. Details are good.

Manufacture: the casting seams were removed. The blade shows a double step, which runs parallel to the edges. The thin cutting edges appear sharpened. Grindings marks are not evident (Fig. A.210).

Use: blade: the right cutting edge appears bowed in proximity to the base of the blade (Fig. A.211) (cf. 30/15).

Other marks: near the tip small parts of the cutting edge has been cut and torn (Fig. A.212). The socket remains in good condition.

Also in this case, it may be worth noting that the evidence of exposure to fire is not very evident on this piece.

30/22 (VR 26517)

Description: lanceolate socketed spearhead. Incomplete with part of the tip missing.

Dimensions: Length (maximum)174 mm.

Patina: bronze with some dull blackish patches unevenly distributed on the surface. Details obscured.

Manufacture: the casting seams were removed. Grindings marks are not evident. No other evidence can be identified.

Use: No evidence can be accounted for use.

Other marks: blade: the blade appears heavily damaged (Fig. A.213). Portions of the blade edges have been cut away. The profile shows severe distortions, perhaps
caused by the delivery of a series of heavy blows, as the indentation on the midrib may indicate. The right edge is rolled inward. It may have been folded on a cylindrical object and then beaten (Fig. A.214) (cf. above 30/9-10). Also the upper break appears to be intentional: it shows distortions in sections which may be related to hammer indentations (Fig. A.215). The small holes which are evident especially on the blade and at a point where the midrib and the blade conjoin may be the result of gas released during the exposure to heat.

**SOCKET**: the socket is flattened and crushed; its mouth has been definitively closed (Fig. A.216).

30/23 (VR 26508)

**Description**: leaf-shaped socketed spearhead. Incomplete with part of the tip missing.

**Dimensions**: Length (maximum) 190 mm; width 38 mm.

**Patina**: bronze with some blackish patches. Details are good.

**Manufacture**: the casting seams were removed. A step on the blade is faintly evident at the base of the left edge. The cutting edges appear sharpened. Grindings marks are not evident (Fig. A.217).

**Use**: no evidence can be accounted for use (Fig. A.217).

**Other marks**: **BLADE**: the blade appears heavily damaged especially in the tip area. The blade edges have been cut away and the indents which are visible in section may suggest the use of a blunt instrument. The tip was probably broken through transversal cuts (Fig. A.218). On the right edge, part of the extreme edge is stretched inward. Bronze globules are stuck to the surface of the blade (Fig. A.219). At approximately three quarters of the way up the length of the blade a series of oblique scores are evident on the midrib. These marks cannot be accounted for, though they do not seem to have been inflicted in antiquity, as they cut through the patina (Fig. A.219).

**SOCKET**: the socket is in good condition.

It may be worth noting that there is no clear evidence of the exposure to fire, a part from the bronze globules stuck to the surface of the blade.

30/24 (VR 26529)
Description: socketed spearhead. Incomplete with most of the blade and the edges missing.

Dimensions: Length (maximum) 100 mm.

Patina: bronze with some blackish patches. Details largely obscured.

Manufacture: the casting seams were removed. No other useful information.

Use: no evidence can be accounted for use.

Other marks: the fragment of the spearhead has been cut longitudinally at a point where the blade and the midrib conjoin. It may be possible that the break was made by a combination of straining and blows delivered by a blunt object. At the same time the cutting edges have been cut away, probably through hammering, as hammer indentations may indicate (Fig. A.220, black arrow). On the left side, a second fragment of socket is fused together with the first fragment (Fig. A.221). The midrib shows distortions.

SOCKET: the socket of the first fragment remains in good condition, though it is chipped; the second one is cracked and crushed. It may be possible that the piece was fragmented before being exposed to fire (see 30/14). These two fragments of spear reveal an act of extreme violence.

30/25 (VR 26528)

Description: socketed spearhead. Incomplete with part of the tip missing.

Dimensions: Length (maximum) 125 mm.

Patina: rough grey-green patina with some bronze patches showing. Details largely obscured.

Manufacture: the casting seams were removed. No other useful information.

Use: No evidence can be identified.

Other marks: the fragment of the spearhead appears heavily damaged. Longitudinal portions of the blade edges have been cut away and distorted (Fig. A.222).

SOCKET: the socket has been flattened and its mouth was definitively closed as hammer indentations seems to indicate (Fig. A.223).

30/26 (VR 26527)
Description: socketed spearhead with convergent edges. Incomplete with the socket missing.

Dimensions: Length (maximum) 140 mm.

Patina: bronze with thick blackish patches. Details largely obscured.

Manufacture: the casting seams were removed. Two steps run parallel to the blade length (Fig. A.224). No grinding marks are evident.

Use: no evidence can be identified.

Other marks: longitudinal portions of the blade edges have been heavily damaged: the substantial distortion may have been caused by hammering. The lower break may have been done through a combination of bending (see the close-up in Fig. A.225, indicating in red the cracked and chipped part of the spearhead that probably resulted from the bending); the section of the blade at the lower break does not show evidence of tool marks; however, they may have been inflicted beyond the extent represented by the surviving fragment (Fig. A.226).

30/27 (VR 26536)

Description: fragment of socketed spearhead. Part of the blade and the socket missing.

Dimensions: Length (maximum) 65 mm; width 38 mm.

Patina: thick dense grey-olive patina. Details locally good.

Manufacture: the casting seams were removed. A single step runs parallel to the fragment of the blade length. No grinding marks are evident.

Use: no evidence can be identified.

Other marks: the cutting edges appear deformed by fire. The fragment is slightly bent, indicating that the break was probably done by a combination of bending and hammering, as indentations at the upper break might indicate. The lower break does not show any evidence of tool marks (see above 30/26). Small holes and voids on the surface may have been caused by the release of gas during the exposure to fire (Fig. A.227, 228).

30/28 (VR 26520)

Description: fragment of socketed spearhead. Blade missing.

Dimensions: Length (maximum) 79 mm.
Patina: bronze with some thick grey-green patches. Details locally good.

Manufacture: the casting seams were removed. No other evidence can be identified.

Use: no useful indication.

Other marks: this piece has been crushed and flattened. A longitudinal dip, which run over the length of the surviving fragment might be associated with the tool which was used to inflict the blow (Fig. A.230). On the other side, a hammer indentation is evident below the upper break (Fig. A.229).
Current Location: Ministero per i Beni Culturali e Ambientali. Soprintendenza Archeologica per il Veneto Nucleo Operativo di Verona (Verona).

Date of find: the early information about Fondo Paviani is given by Salzani and Fasani (1975), who in 1974 found the site during surveys. Subsequently (1986-2000) the area was further investigated as part of the “Alto-Medio Polesine -Basso Veronese” project, which was jointly organized by the British “Accordia Research Institute and the Italian University of Padua. At present the archaeological excavations are still in process.

Chronology: from a very advanced phase of the Middle Bronze Age (MBA 2B) to the early Final Bronze Age (FBA 1A).

Structures: the site is located on a mound in the western bank of a paleo-channel (probably a branch of the Menago river). Approximately 600 m north-west on the same mound, there is the cemetery of Scalvinetto, characterized by cremation and inhumation graves which are partially coeval to the site. On the basis of the data analyzed by scholars joining the AMPBV project it is possible to identify the following occupational phases:

1. pile-dwelling site with platforms supported by a network of poles in wetland. It probably occupied the area of the subsequent terramara. Radiocarbon dating of this phase is between 3280+-65 cal. B.C. 1σ: 1620-1450;

2. a moat and an embankment, encircling an area of approximately 16 ha, were built in this phase;

2 or 3. an enclosure of approximately 7 ha and some other structures geared to the water management were found near-site.

3. occupational phase, characterized by houses built directly on the ground. Toward the end of this phase, the embankment was defunctionalized, while the moat was filled up. Radiocarbon dating of this phase is between 3065+-70 cal. B.C. 1σ: 1410-1220.

4. abandonment. Radiocarbon dating of this phase is between: 3010+-65 cal. B. C. 1σ: 1380-1130.

The site has been considered a central place with a political role within a wider polity. In the course of the Recent Bronze Age it overtook the previous core-area
centred on Lake Garda (Peschiera). The flow of metal seems to have shifted from Trentino (north-Eastern Italy) and Salzburg (Austria) to Etruria (central Italy) as shovels of the Manciano-Samprugnano type found at Fondo Paviani would indicate. This new polity is fully integrated in a network of contacts from both central and northern Europe as well as the Mediterranean basin (De Guio 1991).

**Material remains:** although vast array of ceramic vessels, it is not possible to precisely identify the exact moment of the first occupation at the site. Even the radiometric dating, ranging from the end of the Middle Bronze Age 2 and the early Middle Bronze Age 3, are helpful in defining it. The latest campaigns brought to light material remains which date to the Middle Bronze Age. Two flint blade of sickles, found in the area outside the site and widely in use up to the middle phase of the Middle Bronze Age (MBA 2), would indicate that the land was probably exploited for agriculture purposes before the site was occupied. Some objects found in the cemetery, and assigned to the end of the Middle Bronze Age, would attest that the site was already active at that time (Frontini 2009). Few Mycenaean shards were found at Fondo Paviani (Bettelli, Vagnetti 1997: 616) along with amber beads of the Tirinto type and bronze objects which would attest the activity of metallurgists (between them: slag, a fragment of a mould, an ingot) in-site. It is likely that the spearhead comes from the area within the site as hearths and part of hut floors found during the survey along with ceramic vessels may indicate. The piece has been attributed to the Recent Bronze Age-Early Final Bronze Age on typological grounds (Bruno 2007: 205): long sockets are attested in this span of time on small spearheads; for example, a similar flattened midrib is evident in a specimen contained in the Gerocarne hoard (Vibo Valentia, Calabria) (Bruno 2007: 385, Tav. 59.291), attributed to the Recent Bronze Age (Carancini and Peroni 1996: tav. 29). The stepped blade which is faintly visible on the one edge (Fig. A.232) makes this spearhead very similar to those of the Pila del Brancón hoard (advanced Recent Bronze Age- Final Bronze Age, Phase 1) (see above context n. 30). However, the specimen has a close parallel with a fragment of the Malpensa hoard (Mira Bonomi 1978), attributed to the early Final Bronze Age (De Marinis 1979), so that it seems possible to assign the piece considered to the same chronological period, even though we cannot exclude a earlier date for this type of spearheads, due to the parallel with Recent Bronze Age contexts.
Bibliography: Fasani and Salzani 1975; De Guio 1991; Belluzzo and Tirabassi 1996; Balista, Cafiero, and De Guio 1997; Bettelli and Vagnetti 1997; Balista and De Guio 1997; Bagolan and Vanzetti 1997 (see these studies in “Le Terramare” for further works published by the AMPBV group); Frontini 2009.

Examination of the spearhead:

31/1 (IG VR 123557)

Description: socketed spearhead. Complete in length, cutting edges heavily altered.

Dimensions: Length 137 mm; width (maximum) 31 mm.

Patina: rough dark green patina with some light grey encrustations. a thick black layer covers the original surface of the piece in the tip area; part of it seems to have been stripped away. As soon as I noticed the particularity of this spearhead, I contacted Dr. Luciano Salzani in order to communicate to him my observation. He confirmed my supposition, expressing the necessity to do more specific analysis. The results of the X-ray revealed that the black layer that covers the upper part of the blade may be an organic substance or resin (Salzani personal communication). Details largely obscured.

Manufacture: the casting seams were removed. Grinding marks are evident over the length of the surviving surface at a point where the midrib conjoin. On the left edge a faint rib (?) runs parallel to the edge (Fig. A.233). As I have already mentioned above the black layer seems to cover part of the blade: the sections of the cutting edges in that part of the blade appear double-layered (Fig. A.231) and grinding marks stop in proximity of it (Fig. A.232).

Use: BLADE: the piece seems heavily worn. The asymmetry between the left and the right edge may reasonably indicate that the blade edges were repeatedly re-sharpened, so that they now appear completely altered (Fig. A.233). The cutting edges show notches in place and they may have resulted from use.

SOCKET: the socket is damaged around its mouth and it may be use-related.

Other marks: no useful indication.
32. PONTE NUOVO (Gazzo Veronese – Verona, Veneto)

Current Location: Ministero per i Beni Culturali e Ambientali. Soprintendenza Archeologica per il Veneto Nucleo Operativo di Verona (Verona) (32/1). Museo Archeologico Nazionale, Villa Badoer, Barchessa (Fratta Polesine) (32/2).

Date of find: the proto-historic cremation cemetery was found in 1976, following agriculture works. On that occasion three different nuclei of graves have been recovered within a rather wide area. However, regular archaeological investigation initiated in 2000 and continued until 2004.

Chronology: the end of the Final Bronze Age (FBA 3) end the Early Iron Age (Este I – early II).

Cemetery organization: three different nuclei of graves have been found on alluvial mounds within a rather wide area not very far from Gazzo Veronese:

• Area A: on the left bank of the Tione river;
• Area B: on the left bank of the Tione river
• Area C: on the right bank of the Tione River. It is constituted by only 4 tombs.

It is likely that other groups of tombs may have existed in the area and that they are either to be found or completely destroyed by agriculture works.

The two graves containing spearheads have been found in Area A (fig. 14.B) and they can be assigned on typological grounds respectively to the Final Bronze Age, phase 3 (FBA3) (Tomb 5) and to the Early Iron Age (Este I) (Tomb 61).

The cemetery could have been connected to two settlements - Coazze and Copi Romani - at a distance of approximately one kilometre south.

Structure of the tombs: cremation cemetery with only one inhumation (Tomb 45). Burial urns, containing cremated ashes of the deceased, were placed in pits and covered by a bowl. In some cases, the pit did not contain the urn, but only the cremated bones and the ashes from the funeral pyre. In some other cases, heaps of cremated bones led the excavator to suppose the existence of organic containers. Other pits contained only the ashes from the funeral pyre and they may have represented offerings to the deceased. Burnt bronze or ceramic fragments were generally found mixed with the soil from the funeral pyre which filled the pit up. In some cases, these pieces were carefully placed within the pit either around or beneath the urn and often part of the same object has been found both inside and outside the urn. Generally, the grave
goods were placed within the urn above the cremated bones, but in few cases they lay at the bottom of the urn. Cremated animal bones were found in a few urns, while a couple of un-burnt animal bones were placed outside the urn. In one grave (tomb A) astragali were placed in circle around the urn. A number of flint blades were also found either in male, female or infant graves.

**Grave goods:** a number of objects were usually placed along with the urn. The graves have not been sexed on the basis of the grave goods. Anthropological analysis revealed that it is possible to identify, though not always, recurrent patterns of association between sex of the deceased and the types of objects which accompanied the dead. Apart from ceramic vessels, metal grave goods include:

- Male ornaments (pins, serpentine fibulae); tools (razors, hook, shovel); weapons (spearheads, swords, knives);
- Female ornaments (bow fibulae, pins with double spirals, rings, beads, plait clips); tools.

**Tomb 5:** the urn was placed in a pit above a thin layer of soil of the funeral pyre. Burnt fragments of a spearhead and a knife of the “Vadena”, var. A type and an unburnt butt of a spearhead were placed around the urn, while a razor of the “Fontanella” type, a pin of a serpentine fibula and a small bowl were found beneath the urn. Other ceramic fragments probably belonged to the bowl which covered the urn. The socket of the spearhead, fragments of a broken pin of the “Fontanella” type, and some other small bronze pieces deformed by fire were found within the urn mixed with the cremated bones. A second small bowl was placed at the bottom of the urn. The grave belongs to an adult male and it can be attributed to the Final Bronze Age, phase 3 on typological grounds.

**Tomb 61:** the urn is placed on the eastern side of the pit. Within the urn, a serpentine fibula, a razor of the “Vetulonia” type and a ring (diameter: 2,2 cm) lay above the cremated bones of the deceased. A burnt and broken flint blade was found mixed with the cremated bones. Three fragments of a spearhead were found outside the urn. The tomb belongs to a youth/adult male and it can be attributed to the Early Iron Age (Este I) on typological grounds.

**Bibliography:** Salzani 2005 b; Onisto and Marsotti 2005.
Examination of the spearhead:

32/1 (IG VR 123557)

Description: flamed socketed spearhead. Four joined pieces (Fig. A.234).

Dimensions: length 440 mm; width 72 mm.

Patina: rough dark green patina with some reddish patches. The piece withstood fire so that the details are now largely obscured.

Manufacture: The casting seams were completely removed. Two grooves run parallel to the cutting edges. No other information is identifiable.

Use: no useful indication.

Other marks: the spearhead withstood fire. The lower break was made by violent hammering (Fig. A.235), while the other two breaks perhaps by a combination of bending and the delivery of blows from a sharpened tool (Fig. A.236) as the saw-like profile visible in section may indicate. The tip remains straight. The socket shows a hollow above the rivet hole. It may have resulted from pushing a round tool/object into the heated metal (perhaps the rivet itself) in the attempt to remove it (Fig. A.237).

32/2 (no Museum Number)

Notes: the examination is limited to only one side of the spearhead as at the time of my visit it was fixed to a panel for exhibition reasons.

Description: three small fragments of the same socketed spearhead (Fig. A.238).

Dimensions: no useful indication.

Patina: rough and thick dark green patina (fragment of tip). Dull grey patina with some light green patches. Details largely obscured.

Manufacture: no other useful information.

Use: no useful indication.

Other marks: the fragments withstood fire. The fragment of the blade in the middle is flattened and may have resulted from hammering, as indentations above the lower
break indicate. The first fragment from the bottom shows a bowed cutting edge. Hammer indentation seems to be in connection with this evidence.
Current Location: Museo Archeologico Nazionale, Villa Badoer, Barchessa (Fratta Polesine).

Date of find: the first excavation at the cremation cemetery of Desmontà started in 1982 with the opening of two sectors: A – 21x15 m, and B – two trenches: 26x10 and 6x39). In the following years other areas were investigated: C – 11x13m; D – 10,30x19,15 m; E – 13x5 m; F – 8x5,30 m; G – 10x15; H – 2x3 m; I – 5x5; L – 10,50x26 m (Fig. A15).

Chronology: Salzani (1993: 46-47) distinguished three major phases:
- Desmontà I: 11th century BC;
- Desmontà II: 10th century BC;
- Desmontà III: the end of the 10th century BC and the early 9th century BC.

Cemetery organization: the cremation cemetery at Desmontà is located on alluvial mounds in Loc. Caneviera, approximately 600 m from the settlement site of Sabbionara.

The cemetery contained only cremation burials and clusters of tombs have been identified. Each group included the cremated bones of both male and female individuals, which were deposited either in pits or in urns. The author (Salzani 1993: 48) believes that the clusters of tombs are likely to reflect social units focused on kin ties. Interestingly, in 1984 a pair of finely decorated bronze greaves were found in the area of the cemetery folded on a wooden stick. The fact that the greaves have been deposited in a pit within the funerary area (Sector C), approximately 50 m from the nearest tombs, poses a problem in interpreting them. In the author’s opinion (ibid. 49) it can be neither a tomb nor a hoard, but rather it may be referred to as a votive deposition or to a wooden cult image, namely a xoanon (see also Peroni 1996: 310). The greaves have a close parallel with other specimens found in the Malpensa hoard (Mira Bonomi 1978). Greaves with laces and decorated with the technique of repoussé can be assigned to the 11th-10th century BC, thus when the cemetery was already in use.

Tomb 56, containing the spearhead, was found in Sector L and can be assigned on typological grounds to a period ranging from the Final Bronze Age, phase 3 (FBA3) to the Early Iron Age, on the basis of a serpentine fibula (Carancini 1979: 638-639 cited in Salzani 1993: 46).
Structure of the tombs: the cremated ashes of the deceased were placed either in simple pits or in urns. In those few cases where an urn has been found, it generally lays at the bottom of the pit, which is filled with the ashes of the funeral pyre. In one case (tomb 49), the urn is placed on a slab and is encircled by stones. This evidence was linked to the particular social/political status of the deceased (Salzani 1993: 47). Animal bones were found in only one tomb (tomb 4) and they belong to a youth.

Grave goods: The grave goods are represented by the personal belongings of the deceased, which accompanied them on the funeral pyre. While some objects are intact, others show evidence of intentional breakage. Also, the ceramic vessels which probably contained food and drinks show fire deformations. There is not much difference between the tombs in a simple pit and those in urns, so it is not possible to detect any emergent social or political unit (apart from tomb 49, see above). Few burnt flint blades have been found in some tombs in simple pits and have been interpreted as amulets (Salzani 1993: 47). The majority of the graves have been sexed on the basis of the grave goods, as only few tombs have been determined through osteological analysis. Accordingly, the patterns of association between sex of the deceased and the types of objects in the graves may be only indicative:

- Male: pin, serpentine fibula, razor, spearhead and sharpening stone;
- Female: bow fibula, armil, ring, glass beads, plait clips, antler disc/wheel.

However, on the basis of this consideration it may be worth noting that pins have been also found in tombs characterized by “female” grave goods (tomb 45, 57). It may indicate that (1) the grave goods do not always represent the deceased’s personal belongings, but rather the mourners’ offers, or (2) that the rigid sexed structure that we create is more flexible than we expected.

Tomb 56: the cremated bones were deposited in a simple pit. The grave goods consisted of a fragment of serpentine fibula made of two pieces and a socketed spearhead decorated with grooves.

Examination of the spearhead:

33/1

Notes: the examination is limited to only one side of the spearhead as at the time of my visit it was fixed to a panel for exhibition reasons.

Description: flamed socketed spearhead. Five joined pieces.

Dimensions: Length 253 mm.

Patina: brownish patina with some light green patches. The piece withstood fire so that the details are now largely obscured.

Manufacture: The casting seams were completely removed. Three grooves run parallel to the cutting edges. No other information is identifiable.

Use: no useful indication.

Other marks: the spearhead was broken in five pieces. It may be possible that the breakage occurred soon after the piece was removed from the funeral pyre. The breaks were made by a combination of bending and hammering, as indentations just below the upper break of the second fragment and the lower break of the third fragment may indicate (from the bottom) (Fig. A.239). The spearhead was bent approximately halfway up its length. The distortion on the blade may have resulted from hammering. The socket shows two cracks at right angles which, perhaps, may have occurred when it was separated from the rest of the spearhead (not illustrated).
34. **FRATTESINA SETTLEMENT** (Fratta Polesine – Rovigo, Veneto)

**Current Location:** Museo Archeologico Nazionale, Villa Badoer, Barchessa (Fratta Polesine).

**Date of find:** the site was discovered in 1967 when ploughing works brought to light archaeological material, attributed to the Final Bronze Age. Regular archaeological campaigns occurred between 1974 and the end of the 80s and involved excavation and surveys in the central-western and eastern sector of the settlement site. The alluvial mound where the site is located was levelled in 1971, so that the more recent layers are no longer identifiable. The cemetery of Fondo Zanotto (500 m south from Frattesina) was discovered in 1977, while the cemetery of Narde (700 m north from Frattesina) was discovered in 1985 (Salzani 1989 a). In 2004-2005 excavations conducted in the cemetery of Narde revealed the existence of a further funerary area, called Narde II. The spearheads (one intact and two fragments) were found during surveys in the area of the settlement (Salzani 1989 b: 66-68).

**Chronology:** the site of Frattesina was occupied for more than three centuries (12th-beginning of the 9th century BC). The typological analysis of the material pointed out three major occupational phases (Bellintani 1994):

1. the end of the Recent Bronze Age – early Final Bronze Age (13th-12th century BC). Ceramic vessels with the typical shape of the Recent Bronze Age tradition (*Subappenninico*) are characterized by a decoration which belong to the early Final Bronze Age (*Protovillanoviano*);
2. Final Bronze Age (12th – 11th century BC); this phase represents the flourishing of both the Frattesina site with its industrial area and workshops and the two cemeteries, perhaps organized on the basis of kin groups;
3. the end of the Final Bronze Age – first Iron Age (10th/first half of the 9th century BC). This phase is characterized by materials from surveys and by structures – mostly floors and dumps – recovered during the excavation in 1989. The instability of the river system ensuing from the wetter climatic conditions which occurred in the course of the Iron Age, may be considered one of the factors which determined the collapse of the settlement sites on the “Po di Adria” river. However, the radical socio-economic changes, which saw the widespread of the Villanovan culture group, must be taken into account.
The intact spearhead (34/1) is attributed to the 11th-10th century. The bronze materials found on that occasion cover a span of time ranging from the Final Bronze Age to the Early Iron Age (Salzani 1989: b: 68) as they come from the more recent layer destroyed by recent ploughing. The spearhead is finely decorated with a “chevron” motif on the midrib and horizontal bands as well as “curl” motif on the socket. This decoration appears an unicum, as it does not seem to have parallels either in Italy or outside the Italian peninsula. However, a spearhead very similar in shape to the one found at Frattesina comes from the grave 1191 of Velika Gorica (Croatia) (Vinski-Gasparini 1973: tav.103.3. The grave goods also included a razor of the “Oblekovic” type, which can be compared with the Italian razors of the “Fontanella” type, attributed to the end of the Final Bronze Age (Bianco Peroni 1979: 59-60). According to the considerations made so far, I have attributed the spearhead of Frattesina to a late phase of the Final Bronze Age (FBA 3) (Bruno 2007:171-172). The same chronology can be extended to the two fragments of spearhead tips, which can be both include in the same type of the decorated specimen.

Structures: the houses were evenly distributed on the area of the encircled settlement site. According to the excavation data, the hut analysed (Phase 1: 11th century BC) was oval in plan and built of wooden posts and beams with wattle-and-daub walls. It measured 4 m long x 3 m wide and was destroyed by fire. The settlement site was reorganized between the 10th-9th century BC: the bigger houses rectangular in plan are now spaced apart from each other. In the central-western part of the settlement is widely documented the presence of workshops, which chemical analysis have confirmed to be geared to the production in glass, glazed pottery, bone, antler and bronze (four hoards, three of them founder’s hoards have been found in that area). Other raw materials, such as ivory, ostrich eggs and amber were imported.

Material remains: the site shows impressive evidence of craft production and it led some authors to consider the possibility of a full-time craft specialisation (Peroni 1994: 242). Craft production units do not seem to have been separated one another, rather the excavations revealed that different materials were worked within the same structure concurrently. Mycenaean potsherds (Late Helladic III), probably produced in southern Italy, have been found at the site. The massive production at the site documents the active role played by Frattsina in the Mediterranean trade system.

**Examination of the spearhead:**

34/1 (IG 394742)

*Description:* socketed spearhead. Two joined pieces. Complete in length with part of the blade edges missing.

*Dimensions:* Length 245 mm.

*Patina:* rough dark green patina with some smoothed patches. Details are good.

*Manufacture:* The casting seams were removed. The cutting edges are finely sharpened. The piece is characterized by a well-executed decoration which consists of a *chevron* motif on the midrib and horizontal bands as well as “curl” motif on the socket. No parallels have been found to date. At present the decoration is faintly visible after it was subjected to conservation treatments (Salzani personal communication). Grinding marks are not evident (Fig. A.240).

*Use:* **BLADE:** the blade edges seems unworn and no evidence can be attributed to use. The break at the base of the blade (Fig. A.242. A-C) seems to have been inflicted in antiquity as the patina in section indicates. Accordingly, it may have resulted from use. However, it is worth remarking that some particular damage such as breaks across the blade and the midrib at right angles to the blade edge, and across the socket, might indicate purposeful damage. Davis (2006: 76) states that “experimental combat with replica Bronze Age weapons carried out by the Royal Armouries has shown that such breaks are unlikely in a combat situation”. However, no tool marks are associated with the surviving pieces, though possible evidence in section might have been smoothed down and obscured by post-depositional processes. Pryor (2001:308) also suggests that the blade edge of some Bronze Age swords would have been crashed against stone and rock, but, although intriguing, it does not seem to be the case.

**SOCKET:** the socket remains in fine condition (Fig. A.241).

*Other marks:* see above for the evidence related to intentional damage. On the left cutting edge, a score run parallel to the blade: it may have resulted from modern damage, as it shows fresh metal.
34/2 (IG 254644)

Description: fragment of a socketed spearhead. Incomplete with part of the blade and the socket missing.

Dimensions: Length 65 mm.

Patina: dull green patina with thick and rough encrustation. Details locally good.

Manufacture: The cutting edges are sharpened through fine hammering. An engraved groove runs parallel to the cutting edges. Longitudinal grinding marks are evident over the length of the blade at a point where the midrib and the blade conjoin.

Use: BLADE: the blade edges do not present major damage (Fig. A.243). The original sharpened blade is still evident on both the edges (Fig. A.244). On the left edge, at a point near the tip, the original profile of the cutting edge appears altered (Fig. A.244: A-B). It may be possible to relate the evidence to maintenance treatments. At this regard, it may be worth noting that also the tip, which appear blunt, was possibly reworked.

The break at the base of the blade seems to have been inflicted in antiquity as the patina which covers it indicates (Fig. A.245). Accordingly, it may be possible that the spear broke off during use. The absence of tool marks, though they may have been inflicted beyond the extent of the surviving piece, seems to strengthen this possibility.

Other marks: at the lower break, the left cutting edge appears chipped, but it may have resulted from modern damage, as fresh metal seems to indicate.

34/3 (IG 254644)

Description: fragment of a socketed spearhead. Incomplete with part of the blade and the socket missing.

Dimensions: Length 125 mm.

Patina: dull green patina with thick and rough encrustation. Details locally good.

Manufacture: the cutting edges appear sharpened. Two ribs run parallel to the cutting edges (Fig. A.246). No longitudinal grinding marks are evident. Small patches free from corrosion show a polished surface.
**Use:** BLADE: the blade edges are battered. Some of the nicks and chips have resulted from modern damage (Fig. A.247: A), but at least one of them may have been inflicted in antiquity (Fig. A.247: B). However, the advanced corrosion may have exaggerated the original extent of some marks, making difficult a more in depth examination of the evidence related to use.

The break at the base of the blade, which separates the spearhead into two pieces, may have resulted from use (cf. above 34/2).

**Other marks:** no useful indication.
35. FRATTESINA HOARD N. 4 (Fratta Polesine – Rovigo, Veneto)

Current Location: Museo Archeologico Nazionale, Villa Badoer, Barchessa (Fratta Polesine)

Date of find: the hoard was found following agriculture works in 2002

Chronology: it is attributed to the middle phase of the Final Bronze Age (FBA 2) on the basis of the typology of the axes, shovels and pick-ingots.

Context of find: the metal objects were in part englobed in a lump of earth and partially scattered within an area of one meter square. The fact that the assemblage is characterized by worn and fragmented objects, led the author (Salzani 2003: 40) to interpret it as a “founder” hoard. In the previous years, two hoards (n. 2 and 3) were found in the same area within the pro-historic settlement. More problematic is the exact position of both hoard n. 1 and the treasure, also recovered there. It is likely that the area was used for metallurgical activities.

Contents: the hoard includes the following objects: winged axes, socketed shovels (complete and fragments), two fragments of spearhead tips, fragments of picks, ingots, a piano-convex bun, whose lead isotopic ratios seems to be consistent with ores of the Sardinian mineral district (Zaghis 2003: 45), fragments of pins, fragments of bracelets, fragments of tweezers, buttons, fragments of knives, awls and chisels and a miscellaneous of fragments belonging mostly to shovels and small metallic bars. The full assemblage weighs 6,580 kg. It seems worth noting that some objects are fused together.


Examination of the spearheads:

35/1 (IG 297877)

Description: socketed spearhead. Incomplete with most of the blade and the socket missing.

Dimensions: Length (maximum) 80 mm.

Patina: light green patina with darker green encrustations. Heavy corrosion. Details largely obscured.
Manufacture: no useful information. The corrosion build-up may have obscured any evidence of manufacture.

Use: BLADE: the left cutting edge does not seem to show any mark. Contrarily, the right cutting edge appears heavily damaged as a longitudinal portion of the blade is missing (Fig. A.248).

Other marks: the damage on the right cutting edge cannot be interpreted with confidence: it may be related to use and the advanced corrosion may have exaggerated the extent of it; on the other hand, the blade edge might have been cut away. The metal is covered by patina in section, indicating that it may have been inflicted in antiquity (Fig. A.249). At the lower break, a small portion of the left blade edge appears slightly distorted and the midrib is slightly bent. It may be possible that the separation of the blade from the socket occurred through bending.

35/2 (IG 297878)

Description: socketed spearhead. Incomplete with most of the blade and the socket missing.

Dimensions: Length (maximum) 55 mm.

Patina: thick light green patina with darker green encrustations. Rough surface; some reddish patches showing. Corrosion. Details largely obscured.

Manufacture: no useful information. The corrosion build-up may have obscured any evidence of manufacture.

Use: BLADE: no clear evidence can be identified. The blade edges are heavily worn, though it is difficult to establish to what extent it might have resulted from use (see below).

Other marks: on the right edge, near the lower break, a longitudinal part of the blade, perfectly parallel to the midrib, is missing (Fig. A.250). Interestingly, just above this evidence, a wider portion of the blade is conserved. It is slightly bent inward and on the other side it shows a longitudinal crack which is in continuity with the part missing below (Fig. A.251). If so, it could mean that the damage is unlike to have occurred during use, rather it may have been intentionally done. At the lower break, the metal in section is smoothed and the encrustations partially cover the break, indicating that the damage occurred in antiquity. No evident tool marks can be associated with the lower break, which however appears slightly bent. The evidence
may indicate that the break occurred through bending. The piece may have been exposed to heat, as the surface may indicate.
Description: socketed spearhead. Incomplete with the socket missing. The spearhead is wedged inside the mouth of a socketed shovel (Fig. A.252).

Dimensions: not determinable.

Patina: thick light green patina with darker green encrustations; some reddish patches showing. Details largely obscured.

Manufacture: no useful information.

Use: apart from a major nick on the right edge, which might be associated with modern damage as it shows fresh metal (Fig. A.253.A, B), both the cutting edges present minor damage, which may indicate use (Fig. A.253.A-C). They are unlikely to have resulted from post-depositional processes as the breaks are covered by patina in section. No evident tool marks can be associated with the lower break, although they may have been inflicted beyond the extent of the surviving fragment.

Other marks: the exposure to fire fused the two objects together, so that it may not have been intentional. No other useful information is available.

Notes: it may be worth noting that particular marks have been observed on the surface of the three pieces examined above: bending, exposure to fire, cutting away portion of the edges). The same evidence occurs in the form of deliberate damage dictated by ritual behaviour in other contexts (cf. context 30: Pila del Brancón and in context 1: Cascina Ranza). Although the reasons behind the deposition of those assemblages in different contexts may be different, it is important to note a sort of similarity in the treatment of objects before deposition.
Current Location: Ministero per i Beni Culturali e Ambientali. Soprintendenza Archeologica per il Veneto Nucleo Operativo di Verona (Verona).

Date of find: The spearhead was found during surveys in the area of Villabartolomea, Loc. Massaua. The site is located in the south-eastern plain of the Valli Grandi Veronesi. Unfortunately, the scant documentation available so far comes prevalently from surveys.

Chronology: The material remains found at the site can be attributed to the Middle Bronze Age (MBA 1-2: Grotta Nuova – Protoappenninico phase). However, I would assign the spearhead to a later phase of the Middle Bronze Age (MBA 3) on typological grounds.

Some parallels can be drawn with a specimen from Villa Cappella (10/1) (Fig. 6.A2). See contest 10 for further discussion. It may be worth noting that similar leaf-shaped blades seem to be very common in this phase of the Middle Bronze Age. Another parallel can be drawn with a specimen from the settlement site of Muraiola di Povegliano (Verona- Veneto) in the western plain of the Valli Grandi Veronesi (Fig. 6.B1), which appears to be characterized by an intense metallurgical activity.  

**Bibliography:** Fasani 2002.

**Examination of the spearhead:**

36/1

**Description:** socketed spearhead. Incomplete with part of the socket missing.

**Dimensions:** Length (maximum) 106 mm

**Patina:** dense olive patina with some dark green patches. Heavy corrosion. Details largely obscured.

**Manufacture:** casting seams were completely removed and grinding marks are visible intermittently over the length of the blade (Fig. A.254). Course grinding marks are evident at the base of the blade on the left cutting edge (Fig. A.255). The blade edges appear sharpened where corrosion did not alter their original profile.

**Use:**  
BLADE: appears battered over its length. Some marks can be attributed to use: a nick near the tip on the left side (Fig. A.256) and a notch at the base of the blade in the left side.

SOCKET: the socket probably broke off in antiquity, as the break is smoothed and covered by patina in section. It may be possible that next to the right rivet hole, there was another hole, as the round profile of the break may indicate (Fig. A.257). The presence of more than the usual two rivet holes is widely attested on spearheads. They may have occurred as additional holes to secure the wooden shaft (especially on large spearheads) or they could have also replace the original two rivet holes, indicating that the spearhead was used and repaired in the course of its life-cycle.

**Other marks:** no useful information.
37. GENERICALLY FROM LAKE GARDA (PESCHIERA) (Verona, Veneto)

**Current Location:** Museo Nazionale Preistorico Etnografico "Luigi Pigorini" (Rome).

**Chronology:** the spearhead held in the “L. Pigorini” Museum labels ”Lago di Garda” (Garda Lake) (Museum No. 18305). The leaf-shaped blade has a parallel with a piece from Finilone Valle (27/1) assigned to the final phase of the Middle Bronze Age (MBA 3). Montelius (1895, pl. 9) published a corpus of materials from the pile dwelling of Peschiera and among them a spearhead held in the Prehistoric Museum of Rome (ibid. pl. 9. 1). There are good possibilities that the Montelius’ piece and the piece I have observed in the Museum of Rome are the same object (Appendix 1: Tab. XX). However, on the basis of the the documentation available, the piece was classified by mistake among a group of spearheads with a rounded base (Bruno 2007: 90). Despite this, the chronological attribution to the final phase of the Middle Bronze Age (MBA 3) remains valid (Ibid. 160, 161).

**Examination of the spearhead:**

37/1 (18305)

**Description:** leaf-shaped socketed spearhead. Complete.

**Dimensions:** Length (maximum) 158 mm; width 31 mm

**Patina:** dense grey patina with some calcareous encrustations. Patina partially stripped away. Details are good.

**Manufacture:** casting seems were completely removed. Grinding marks are faintly visible over the surface of the blade. The blade edges appear sharpened (Fig. A.258) and the tip pointed (Fig. A.259).

**Use:** BLADE: apart from a few minor chips, the cutting edges are in good condition (Fig. A.260).

SOCKET: no evidence can be identified.

**Other marks:** no useful information.
Current Location: Museo Nazionale Preistorico Etnografico "Luigi Pigorini" (Rome); Museo delle Origini (Rome); Museo Archeologico Nazionale (Perugia – Umbria); National Museum of Copenhagen.

Date of find: 1868

Chronology: the hoard is attributed to a period ranging between the the Final Bronze Age and the beginning of the Iron Age. While the Cypriot imports (a tripod and a cauldron) have been assigned to the beginning of the Final Bronze Age (FBA 1 – Late Helladic III C), it may be possible that the hoard was deposited between the second half of the 10th century BC and the first half of the 9th century BC (Ponzi Bonomi 1970; Vagnetti 1974: 663; Peroni 1996).

Context of find: according to Leopold (1939: 143), who quoted a letter sent to Prof. Bellucci by the Marquess Eroli in 1873, the hoard was found in 1868 during the construction of the provincial road, which goes from Terni (Umbria) to Rieti (Latiuim). Near the ancient harbour of Piediluco, the workers unearthed a ceramic container with approximately 400 pounds of metal. The hoard lay in the medium slope of a mountain within a hollow that was dug into the calcareous rock. The objects contained in the hoard were in part destroyed and in part dispersed. Despite the Marquess Eroli’s searches, he could neither locate the exact spot of the recovery nor any fragment of the container (for the location of the Piediluco I hoard see Carancini et alii 2009: 26; Chapter 6.1 Fig. 6.7). The Marquess Eroli bought some metal artefacts in a shop at Terni and he numbered among them: four fragments of dirks, twelve spearheads, five chisels, thirty-six knives, eight axes, thirty-two palstaves, ten fibulae, two bracelets, nails, and an animal-shaped object with a hook that he defined “amulet”. Subsequently he sold them to the “Museum Capitolino” at Rome, which, according to Leopold, did not compile a catalogue of the materials. In the following years, the objects were moved to the “L. Pigorini” Museum, where part of them are currently housed.

Leopold, who up to now is the first one to published a rather detailed report of the assemblage, interpreted the hoards as a pre-monetary hoard, namely a “peculium”, a family’s property consisting of different categories of objects (tools, ornaments and weapons). Interestingly, although he excluded a priori the hypothesis of a votive hoard, because “alla divinità si offriva in sacrificio…oggetti votivi di somma perfezione” (“the gods were only gifted with…votive objects perfectly executed”)
(Leopold 1939: 147, note 1), however, the author challenged the utilitarian label of the hoard, questioning the meaning of the fragmentation and pointing out the fact the full assemblage was carefully hidden in a hollow dug into the rock. He concluded that the objected so fragmented might have facilitated economic transactions. Moreover, he made an important remark about the condition of the objects of the hoard: while ornaments, weapons and some tools appear worn, as old repairs on some *fibulae* and spearheads may indicate, the majority of the sickles and winged-axes have never been sharpened. In addition, the author noticed that while the shaft-hole axes, though few, are always intact, the winged axes were subjected to fragmentation.

In 1921-1922 a second group of bronzes was found at “Contigliano” (Rieti – Latium) (see below context n. 39), which is ca. 30 km from Piediluco. According to Ponzi Bonomi’s archive research (1970: 96-98), the objects found in the area of Piediluco were subsequently brought to Contigliano, where they have been acquired by a founder, who ultimately sold them to the Museum of Perugia. The fact that this second group of objects appear so similar to those contained in the Piediluco hoard led some authors to consider the possibility that the two assemblages belonged to the same hoard (Vagnetti 1974: 658, note 3). Vagnetti’s considerations relied mainly on her study of the Cypriot imports contained in the “Contigliano” hoard: the handle of a cauldron and a fragment of tripod, which have close parallels in the Piediluco hoard. As for the latter, the author went on considering the two fragments of tripod as part of the same object (Vagnetti 1974: 658). Contrarily, Ponzi Bonomi (1970: 97) deemed that the span of time intervening between the two discoveries, respectively 1869 and 1921-22, thus approximately fifty years, is too long time for the assemblage of the Piediluco hoard to remain unearthed or - even more unlikely - hidden by someone. According to these considerations, it may be possible that we are dealing with two distinct assemblages, which, however have been found in two different spots within the area of Piediluco. In 1996 Peroni described the two assemblages under the name of “Piediluco I” and “Piediluco II”, specifying that “Contigliano” was only a wrong denomination of a second hoard which was found in the same area of that of Piediluco. Ponzi Bonomi (1970: 153) interpreted the hoard as the stock of a smith or a merchant, but she did not exclude the hypothesis of a pre-currency deposit. Vagnetti (1974) and Peroni (1996) agreed with Ponzi Bonomi’s interpretation, even if the evidence of much older objects such as the
Cypriot imports might appear rather unlikely for a smith’s hoard (Vagnetti 1974: 663). According to all these considerations, it would agree with the interpretation of the two fragments of the same tripod in two different hoards.

Contents: the hoard, as described by Leopold (1939), contained: bronze buns; bronze bars intentionally broken; a fragment of sword, which he defined as “miscast”; fragments of folded metal sheets, which constituted part of a bronze cauldron; other thinner bronze sheets; fragments of knives, some of which appear unworn; fragments of winged axes (he referred that some of them show marks at the upper breaks which he attributed to fact that they may have been used as chisels and that one specimen has small cuts on one of the wings); two intact axes, one of them as-cast; shaft-hole axes, among them one unworn and another as cast example; fragments of sickles; fragments of fibulae and their decorated circular plate or spiral disc (some of them showing repairs made in antiquity); two fragments, respectively of a pin and a bow of a fibula fused together (the author believed that the workers may have tried to fuse the two fragments together. In the author’s opinion while the shape of the objects may have aroused suspicion, the pure quantity of metal could have easier found a buyer); chisels; fragments of spearheads; fragments of a tripod. The tripod and the cauldron have been considered as Cypriot imports and assigned to a period ranging from the 12th century to the 11th century (Vagnetti 1974). In the author’s opinion (ibid. 664) the evidence would not attest a long-distance trade system between Mycenaean and the Tyrrhenian communities of central Italy, rather an indirect trade which had as principal partners the south Italian and Sicilian coasts.

Bibliography: Leopold 1939; Ponzi Bonomi 1970; Vagnetti 1974; Peroni 1996.

Examination of the spearheads:

38/1 (17771 - 115971)

Description: fragment of a flamed (?) socketed spearhead. Incomplete with the tip and the socket missing

Dimensions: Length (maximum) 105 mm; width (maximum) 107 mm.

Patina: bronze with some green patches. Details are good.

Manufacture: casting seems were completely removed. The surviving piece is well executed and polished. The decoration consists in a series of grooves, which run
over the length of the blade. One of them runs on the extreme edge at less than one millimetre. The cutting edges are perfectly preserved and show neither damage nor sharpening. Parallel ribs run over the length of the midrib. An asymmetry is evident in the section at the upper break and it may be due to core misalignment.

**Use:** BLADE: the cutting edges do not show any evidence of use as they appear unworn (Fig. A.262). Obviously, this consideration must be treated with caution as it is based on the evidence of a fragment. Grinding marks are evident on the surface of the blade and are partially superimposed to the grooves on the right edge (Fig. A.261). They may have resulted from maintenance work.

**Other marks:** hammer indentations are associated with the lower break (Fig. A.263), indicating that the spearhead was deliberately broken prior to deposition.

38/2 (17772 - 115972)

**Description:** fragment of the tip of a socketed spearhead. Incomplete with part of the blade and the socket missing.

**Dimensions:** Length (maximum) 110 mm.

**Patina:** bronze with some rough green patches toward the base of the fragment. Details are good.

**Manufacture:** The surviving piece is well executed and polished.

**Use:** BLADE: the cutting edges do not show major damage, a part some minor marks. A series of deep grinding marks run over the length of the blade and at a point where the midrib and blade conjoin (Fig. A.264), while finer abrasions are in association with the cutting edges. They may be related to maintenance work (Fig. A.265). A series of ribs runs over the length of the midrib.

**Other marks:** it is possible that the break was made through bending (Fig. A.266): there are no hammer indentations in association with the lower break, though they may have been inflicted beyond the extent of the surviving fragment; the piece shows a slight bend. A small crack is evident on the left edge, above the lower break and it may have been caused by the fragmentation process.

38/3 (17772 - 115973)
**Description:** fragment of the tip of a socketed spearhead. Incomplete with part of the blade and the socket missing.

**Dimensions:** Length (maximum) 90 mm.

**Patina:** dull green patina with some bronze patches. Details are good.

**Manufacture:** The surviving piece is well executed, polished and smoothed. A series of ribs run over the length of the midrib.

**Use:** BLADE: (similar to 38/2) the cutting edges do not show major damage but they appear re-sharpened, as the small longitudinal abrasions may indicate. The slight asymmetry, which is evident between the two cutting edges, may have also resulted from re-sharpening, which eventually altered the original profile of the blade (Fig. A.267).

**Other marks:** no hammer indentations are in association with the lower break, though a number of tool marks are evident over the length of the midrib (Fig. A.268). Deep grinding marks run over the length of the blade and they be related to maintenance processes. A longitudinal score runs at few millimetres from the extreme edge. At present this mark cannot be accounted for (perhaps a decoration?) (Fig. A.269).

Similar traces have also been observed on two spears from the Monte Primo hoard (see below, context: 43)

38/4 (17773 - 115974)

**Description:** fragment of a spearhead blade. Incomplete with part of the blade and the socket missing.

**Dimensions:** Length (maximum) 68 mm.

**Patina:** bronze. Details are good.

**Manufacture:** The surviving piece is well executed and polished. A series of ribs run over the length of the midrib. Grinding marks are evident on the surface of the blade and at a point where the midrib and the blade itself conjoin.

**Use:** BLADE: there is no clear evidence of concussion marks, apart from a minor damage, which seems to be accidental. The cutting edges appear re-sharpened, as the small longitudinal abrasions may indicate. On the right edge there is evidence of three holes (Fig. A.270). A small circular bar remains in one of them and it has both the ends hammered (Fig. A.270-274), while the half of the lower hole is only visible in section. The fragment preserved is part of the upper blade of a large spearhead. They
may have been drilled some time after manufacture and they may refer to repair. It may also be possible that a plaque was fixed to the blade through rivets to cover a possible damage which could not be smoothed down by only hammering or chamfering. At this regard, it may be worth noting that one disc of a *fibula* in the same hoard shows a plaque pegged to it.

I must say that a plaque fixed to a spearhead blade may have weakened the spearhead itself and sensibly reduced its efficacy in any performance.

**Other marks:** the fragment preserved appears slightly bent, while both the wings show distortions in place. Moreover, on one side at the lower break, there are a series of clear marks, which indicate that the spearhead was fragmented on purpose. These marks are evident only in the concave part and not on the other side, which remains unmarked. This may indicate that:

1. the side with marks lay face down and the damage has resulted from the physical contact between the metal and the support beneath where the spearhead was placed (i.e. a rock, a stone), with the hammer blows being delivered on the other side and beyond the extent represented by the surviving fragment;
2. the spearhead was bent and it broke off ultimately through hammer blows inflicted in the concave side.

The longitudinal portion of the blade missing seems too regular to be accidental. The break may have been done by a combination of cutting and straining/bending, as the profile of the blade may indicate. All these operations together may have caused the crack that runs across the hole and above it (Fig. A.272, 273). If so, it may be possible to venture the hypothesis that the small piece of metal was intentionally separated by the rest of the spearhead prior to deposition and may have been retained for some reasons. The holes do not show major evidence which might be related to any possible functions, though small abrasions are evident in section. Interestingly, a sequence of small marks is evident at a point where the midrib and the blade conjoin, with the upper marks being in line with the upper hole. Interestingly, these faint round dips are evident on both sides and in the pierced wing only (Fig. A.274).

38/5 (17773 - 115975)

**Description:** fragment of the blade of a socketed spearhead. Incomplete with the tip and socket missing.
**Dimensions:** Length (maximum) 85 mm.

**Patina:** bronze with some dull green patches. Details are good.

**Manufacture:** The surviving piece is well executed, polished and smoothed. Grinding marks run over the length of the blade and at a point where the midrib and blade conjoin. The midrib is decorated with a series of ribs which run over its length.

**Use:** BLADE: the cutting edges do not show major damage but they appear re-sharpened, as the asymmetry between the two blade wings may indicate (Fig. A.275). Heavy longitudinal abrasions – probably made by a stiff object - are evident on the blade and over the re-sharpened edges. It may indicate that maintenance work were carried out on a regular base.

**Other marks:** marks are in association with the breaks (see 38/4). The fragment remains rather straight.

38/6 (17774 - 115977)

**Description:** fragment of a socket. Incomplete.

**Dimensions:** Length (maximum) 68 mm.

**Patina:** dull dark green patina; bronze patches showing. Details are locally good.

**Manufacture:** no useful information.

**Use:** BLADE: no evidence can be identified.

SOCKET: it does not show any evident mark.

**Other marks:** the fragment has been crushed probably trough hammering, as the hollows on the surface may indicate (Fig. A.276).

38/7 (17776 - 115981)

**Description:** fragment of a spearhead blade. Incomplete.

**Dimensions:** Length (maximum) ca. 63 mm.

**Patina:** thin light green patina; bronze patches showing. Details are locally good.

**Manufacture:** the surviving piece is well executed, polished and smoothed. Grinding marks run over the length of the blade and at a point where the midrib and blade conjoin. The midrib is decorated with a series of ribs, while longitudinal grooves run parallel to the cutting edges (Fig. A.277).
Use: BLADE: the cutting edges do not show any damage. However, oblique abrasions are evident on the right cutting edge and they are superimposed with engraved grooves. They may be related to maintenance process (Fig. A.278).

Other marks: a massive hammer indentation is evident at the lower break, while the upper break remains unmarked.

38/8 (17778 - 115984)

Description: fragment of spearhead socket. Incomplete.
Dimensions: Length (maximum) ca. 77 mm.
Patina: glossy dark green patina.
Manufacture: the surviving piece appears well finished. No other information available.
Use: no useful information, as the cutting edges do not survive.
Other marks: the mouth of the socket shows a distortion in section, which may be caused by a tool indentation (Fig. A.279).

38/9 (17775 - 115979)

Description: lower blade fragment of a socketed spearhead. Incomplete.
Dimensions: Length (maximum) ca. 47 mm.
Patina: thick dark green patina.
Manufacture: some vertical grinding marks are evident at a point where the midrib and the blade conjoin.
Use: the cutting edges do not present major damage. However, the surviving portion of the blade edge shows a rather rounded profile in section, probably indicating that the spearhead blade was re-sharpened during the course of its use-life (Fig. A.280).
Other marks: neither hammer indents nor substantial distortion are associated with the breaks.

38/10

Description: fragment of spearhead socket. Incomplete.
Dimensions: Length (maximum) ca. 36 mm.
Patina: thick dark green patina with some lighter patches.
Manufacture: the surviving piece seems well finished, as the surface appears smoothed and polished. No other information available.

Use: no useful information, as the cutting edges do not survive.

Other marks: this piece has been separated from the rest of the spearhead through hammering, as the tool marks at the upper break may indicate. Deep longitudinal scores, which are evident at the upper break, may have been done using a chisel-like instrument (Fig. A.281). A number of hammer indents are also evident.

38/11 (115985)

Description: fragment of spearhead socket. At the upper break part of the rivet hole is still evident. Incomplete.

Dimensions: Length (maximum) ca. 53 mm.

Patina: original bronze.

Manufacture: the surviving piece appears smoothed and polished. The casting seams have been removed. No other information available.

Use: no useful information, as the cutting edges do not survive.

Other marks: no tool marks appear associated with the breaks (Fig. A.282).

38/12 (17777 - 115983)

Description: fragment of the midrib of a socketed spearhead. Incomplete.

Dimensions: Length (maximum) ca. 73 mm.

Patina: some bronze remains visible; light green patina partially stripped off.

Manufacture: longitudinal ribs are evident on the midrib of the surviving piece.

   Longitudinal grinding marks are evident over the flat surface of the surviving blade wing and at a point where the blade itself and the midrib conjoin.

Use: no useful information, as the cutting edge do not survive.

Other marks: according to the evidence of the surviving portion of the blade wing, it is likely that the extreme edge was cut away, as the small round tool marks, which are evident in section, may indicate. On the midrib, the longitudinal break seems to have been made following the line of the rib. Part of the rib remains in place in the lower portion of the fragment, where, however, it appears smoothed down, through hammering (Fig. A.283).
Description: fragment of the blade of a socketed spearhead. Incomplete.

Dimensions: Length (maximum) 84 mm.

Patina: dark green patina with some bronze patches showing.

Manufacture: the surface appears smoothed and polished. Longitudinal grinding marks are particularly evident at the point where the blade and the midrib conjoin.

Use: no useful information, as the cutting edges do not survive.

Other marks: at both the breaks hammer indents are evident. The two openings are flattened (Fig. A.284). At the lower break the metal has been pushed inward. A small stone has been jammed into the hollow midrib and is still visible at the lower break (Fig. A.285). A piece of metal with a thin section has been folded and wedged inside the upper break (Fig. A.286). Hammer indentations are also evident over the midrib.

The blade wings may have been cut away and subsequently folded over. It seems worth noting that the point where the metal curves shows no evidence of breaks or cracks. Accordingly, it seems unlikely that the bending was carried out through cold working only. Contrarily, it may be supposed that the blade wing was exposed to heat in order to make the metal easier to work and less subject to breakage. This treatment seems neither practical nor strictly functional. Another example, which may be of some interest as it shed new light on the practice of deposition of objects in hoards, is a piece of thin bronze sheet wrapped around a small flat stone (Fig. 7). It is unlikely that the piece was collected in the hoard with only the intention of recycling. Contrarily, we can imagine that the object was presented in this guise to enact or to seal a specific memory. It may have had special properties and the role it played may have been regarded as highly significant for the participants of a specific event. Unfortunately, I could neither have detailed information about the stones which are in particular connection with these two objects, nor could I find any reference in published works.
38/14 (115987)

**Description:** fragment of the decorated spearhead socketed.

**Dimensions:** Length (maximum) ca. 50 mm.

**Patina:** some bronze remains visible; dark green patches are evident.

**Manufacture:** the decoration which is visible on the fragment consists of horizontal hatched bands. In the upper register, a combination of punched dots and hyphens form arrows with heads downward (Fig. A.287).

**Use:** no useful information, as the cutting edges do not survive.

**Other marks:** no evidence can be identified.

38/15 (17770-115970)

**Description:** fragment of the socket and the lower base of a decorated spearhead.

**Dimensions:** Length (maximum) ca. 170 mm.

**Patina:** some bronze remains visible; green patches are evident.

**Manufacture:** the casting seams were completely removed. The piece is well executed, polished and smoothed. The decoration on the cutting edges consists of three grooves which run parallel to the cutting edges. The innermost line forms the base of
hatched triangles which are at a right angle to the blade. Ribs run over the length of the channel (Fig. A.288). Grinding marks are not evident.

**Use:** BLADE: the cutting edges appear resharpened, as oblique abrasions may indicate. There are only two major marks which may probably have resulted from use (Fig. A.289).

SOCKET: it remains in fine condition.

**Other marks:** hammer indentations are evident at the upper break (Fig. A.289) and they may be related to the breakage of the spearhead. Small tool marks are also evident on the midrib (see also 38/4 for further details). A longitudinal crack runs from the upper break downward (Fig. A.290), and it seems to be in connection with the distortion of the blade wing visible in section.

38/16 (17769-115969; 17769-115968; 17769-115967)

**Description:** three joined pieces of a socketed spearhead: socket (1) (17769-115967), part of the socket and the lower blade (2) (17769-115968), tip (3) (17769-115969). Central part of the blade missing (Fig. A.291).

**Dimensions:** Length (maximum) ca. 145 mm (2) (socket and lower blade); 175 mm (3) (tip); 83 mm (1) (socket). The total length of the spearhead may have exceeded the 45 cm

**Patina:** much of the bronze remains visible; few dark green patches are evident on the tip and on the fragment of the socket.

**Manufacture:** the casting seams were completely removed. The piece is well executed, polished and smoothed. The decoration on the cutting edges consists of three grooves which run parallel to the profile of the blade. Ribs run over the length of the channel

**Use:** BLADE: oblique grinding marks are superimposed on the longitudinal abrasions and on the grooves, so that they may be related to maintenance activity. The cutting edges appear resharpened: on the right edge, just below the upper break, the outer groove stops at a point where the extreme edge appear heavily altered by reworking (Fig. A.292). It may be referred to an attempt to smooth down old damage. Just below the portion which appear reworked, at the angle of the blade, the cutting edge shows deep cuts that may have been inflicted during its use-life.
SOCKET: four rivet holes are evident on the socket. It is likely that the upper holes were added some time after the manufacture, as they seem rather rough compared to the other two holes which contrarily have been included in the mould (Fig. A.294).

Other marks: a dip area is evident on the midrib at the upper break and at the lower break of the fragment of the socket and lower blade (17769 – 115968), indicating that the breakage was probably made by bending. The tip remains straight. Deep cuts are also evident at the tip area on one edge of the blade wing (Fig. A.293). They may represent “V” sections (made for scientific examinations).

38/17 (17776-115980)

Description: fragment of blade of a decorated socketed spearhead.
Dimensions: Length (maximum) ca. 93 mm.
Patina: rough dark green patina with some lighter patches.
Manufacture: the decoration on the right cutting edges consists of three grooves of approximately 1mm, which run parallel to the profile of the blade, while on the other wing only three engraved lines are evident. (Fig. A.295). Grinding marks are evident on the surface of the blade.
Use: BLADE: the right wing appears slightly battered, although no major damage is evident (Fig. A.295). The edges appear sharpened.
Other marks: one of the blade wings has been folded over. There is no evidence of tears or cracks at the point where the metal bent, while hammer indentations are evident on the external surface of the extreme edge (Fig. A.296) (cf. 38/13). On the other blade wing, part of the edge is missing and perhaps the breakage occurred through bending, as the evidence on the other edge seems to indicate. At the upper break, two small pieces of bronze have been wedged into the channel (Fig. A.297) (cf. 38/13). There are no hammer indentations in relation with the upper and lower break.

38/18 (17774-115976)

Description: fragment of the socket and lower blade.
Dimensions: Length (maximum) ca. 67 mm.
Patina: original bronze showing with some green patches on the surviving portion of the blade (Fig. A.298).
Manufacture: The casting seams have been completely removed. Grinding marks are evident on the surface of the surviving portion of the blade (Fig. A.299).

Use: BLADE: the only evidence visible is a minor asymmetry on the right edge at the base of the blade, which appears smoothed in section (Fig. A.299). It may refer to an old damage which has been smoothed away. No further information can be identified, as the portion of the surviving cutting edges are too small.

Other marks: an indentation, is evident above the mouth of the socket (Fig. A.300). No evidence can be identified in association to the upper break.

Description: fragment of the blade of a socketed spearhead.

Dimensions: Length (maximum) ca. 45 mm.

Patina: olive patina with light green encrustations.

Manufacture: no useful information can be identified.

Use: BLADE: the cutting edges do not show major damage, although they appear resharpened (Fig. A.301.A-B). No other evidence can be attribute to use.

Other marks: the piece is bent (Fig. A.301.C). On one side (Fig. A.301.A) some deep horizontal marks are evident at the upper break. They occur on the midrib and on the left cutting edge; however, on the other side a mark at the upper break may indicate that the separation between the piece considered here and the tip was perhaps obtained through the delivery of angled blows (Fig. A.301.B) (see also 38/4 for further details about the breakage). Judging from the marks visible at the upper break, it is also possible to image that the spearhead rested on a hard support while violent blows were being inflicted to separate the overhanging portion of it. If so, it is also likely that the horizontal indentations on the concave side were caused by the impact of the metal subjected to fragmentation against the support beneath.

Description: fragment of the tip of a socketed spearhead.

Dimensions: Length (maximum) ca. 55 mm.
**Patina:** olive patina with light green encrustations.

**Manufacture:** the surviving piece shows a decoration consisting of engraved lines running parallel to the cutting edge (Fig. A.302.1 A-B).

**Use:** the edges may have been resharpened. No further indication can be identified.

**Other marks:** the tip is slightly bent, indicating that the breakage probably occurred through pulling.

38/21

(Photograph by B. Toune)

**Description:** fragment of the tip of a socketed spearhead.

**Dimensions:** Length (maximum) ca. 45 mm.

**Patina:** olive patina with some light green encrustations; some bronze showing.

**Manufacture:** the surviving piece shows a decoration consisting in engraved lines running parallel to the cutting edge (Fig. A.302.2 A-B).

**Use:** the surviving cutting edges appear resharpened, as the small oblique abrasions may indicate. Also the tip seems reworked.

**Other marks:** small lenticular and round tool marks are evident on the midrib and at the lower break. They may be related to the fragmentation process (Fig. A.302.2A).

38/22

(Photograph by B. Toune)

**Description:** fragment of the blade of a socketed spearhead.

**Dimensions:** Length (maximum) ca. 43 mm.

**Patina:** most of the bronze showing; some light green encrustations. Details are locally good.

**Manufacture:** the surviving piece shows a decoration consisting of engraved lines running parallel to the cutting edge, and a series of ribs on the midrib (Fig. A.303.1A). No grinding marks are evident.

**Use:** the surviving cutting edges appear sharpened and battered over their length, though no major damage can be identified.
Other marks: the fragment is bent; on the one side at the lower break (not illustrated) tool marks may suggest that the separation was made through a method which combined hammering and bending (Fig. A.303.1B).

38/23
(Photograph by B. Toune)

Description: fragment of the blade of a socketed spearhead.
Dimensions: Length (maximum) ca. 53 mm.
Patina: most of the bronze showing; some light green encrustations. Details are locally good.
Manufacture: grinding marks are evident over the blade and in the hollow where the midrib and the blade conjoin. The section of the midrib is flattened. An asymmetry is evident in section at the breaks, indicating, perhaps, core misalignment (Fig. A.303.2B).
Use: the surviving cutting edges appear resharpened, as the small oblique abrasions may indicate. However, there is no evidence that can be associated with use (Fig. A.303.2A).
Other marks: tool marks are in association with lower break and they may be related to the fragmentation process. Here again, it seems possible to suppose that the separation was made through a method which combined hammering and bending (Fig. A.303.2B).

38/24
(Photograph by B. Toune)

Description: fragment of the blade of a socketed spearhead.
Dimensions: Length (maximum) ca. 56 mm.
Patina: dark patina; some bronze showing; some encrustations. Details are partially good.
Manufacture: the piece shows a decoration consisting of two grooves which run parallel to the cutting edges. Grinding marks are not evident.
Use: the surviving cutting edges appear resharpened. No marks can be attributed to use (Fig. A. 304.1A-B).
**Other marks:** there is no evidence of tool marks in association with the breaks. The piece remains straight.

38/25

(Photograph by B. Toune)

**Description:** fragment of the blade of a socketed spearhead.

**Dimensions:** Length (maximum) ca. 140 mm.

**Patina:** original bronze; some light green patches. Details are locally good.

**Manufacture:** the decoration consists of engraved lines running over the length of the blade. Grinding marks are evident over the blade and in the hollow where the midrib and the blade conjoin.

**Use:** the surviving cutting edges appear resharpened, as the asymmetry between the edges and the small oblique abrasions may indicate. However, apart from few minor chips, there is no evidence that can be associated with use (Fig. A. 304.2 A-B).

**Other marks:** there are no tool marks in association with the lower break. The piece remains straight.

38/26 (8133/6)

(Photograph by B. Toune)

**Description:** part of lower blade and socket of a spearhead. Tip and part of the blade are missing.

**Dimensions:** Length (maximum) ca. 136 mm; width (maximum) ca. 72 mm.

**Patina:** dull olive patina, with some light green and bronze patches. Details are partially good.

**Manufacture:** the casting seams have been removed. The socket has a polygonal section. Faint grinding marks are evident where the original surface survives.

**Use:** the surviving cutting edges appear resharpened: their profile appears smoothed and rounded. There is no clear evidence that can be associated with use (Fig. A. 305).

The socket remains in a good condition.

**Other marks:** some marks are in association with the upper break.

38/27 (8133/7)
Description: fragment of the tip of a socketed spearhead.

Dimensions: Length (maximum) ca. 83 mm.

Patina: dull olive patina, with some light green and bronze patches. Details largely obscured.

Manufacture: no evidence can be identified.

Use: the surviving cutting edges appear resharpened, though the evidence cannot be examined in more detail, as they are largely covered by the patina. However, there is no clear evidence associated with use (Fig. A. 306.1).

Other marks: tool marks are in association with the upper break.

38/28 (8133)

(Photograph by B. Toune)

Description: fragment of the tip of a socketed spearhead.

Dimensions: Length (maximum) ca. 76 mm.

Patina: rough green patina, with some lighter patches. Details partially obscured.

Manufacture: no evidence can be identified.

Use: the surviving cutting edges and the tip appear resharpened. Two deep cuts are evident on the left edge, and they may have resulted from use. Interestingly, the lower one has a “V” shaped profile and, perhaps, it may have resulted from metal striking metal (Fig. A. 306.2).

Other marks: no useful information.

38/29 (8133/12)

(Photograph by B. Toune)

Description: lower blade and socket of a spearhead. Tip missing.

Dimensions: Length (maximum) ca. 107 mm; width (maximum) 36 mm.

Patina: original bronze showing; some light green patches. Patina stripped away. Details are good.
**Manufacture:** grinding marks are evident over the blade and in the hollow where the midrib and the blade conjoin. Large voids are visible in section at the upper break; they may have resulted from the release of gas impurities during casting.

**Use:** **BLADE:** one of the edges show small bowed areas at approximately half of the way up its length (Fig. A.307.1 A-C). These marks may have resulted from use. The blade wings appear heavily resharpened and reworked, as the small oblique abrasions on some portions of the cutting edges (Fig. A.307.1 B) and the asymmetry between the two edges (Fig. A.307.1 A) may indicate. The upper break does not show any tool marks, so that it may be possible that the spearhead snapped during its use-life, though other interpretations cannot be dismissed.

**SOCKET:** also the socket shows possible attempts to repair old damage (Fig. A.307.1 D): one of the rivet holes has been enlarged. The metal appear smoothed in section and it seems to be connected with a crack which runs longitudinally from the mouth of the socket to the void. The mouth of the socket shows localized hammering.

**Other marks:** no evidence can be identified.

38/30 (8133)  
(Photograph by B. Toune)

**Description:** fragment of the blade of a socketed spearhead.

**Dimensions:** Length (maximum) ca. 39 mm.

**Patina:** dull olive patina. Details are good.

**Manufacture:** the surviving piece seems very well executed. Grinding marks are evident over the length of the blade. The decoration consists of two groups of two ribs running parallel to the cutting edges. The innermost rib forms the base of a vertical row of hatched triangles. A series of ribs run over the length of the midrib. The cutting edge appears finely sharpened (Fig. A.308.1A-B).

**Use:** **BLADE:** the surviving piece does not show any evidence of use. However, the fragment is too small and does not permit a correct evaluation.

**Other marks:** the blade wing shows distortions, which may be connected with the process of fragmentation (Fig. A.309.1A): the separation may have been made by a combination of hammering and bending. Tool marks seems to be associated with the breaks (Fig. A.308.1B). Scores run longitudinally over the length of the blade at a point which coincides approximately with the apex of the triangles; this evidence
appears on both the blade wings on the one side and of one edge on the other side (Fig. A.309.1B). At present this evidence cannot be accounted for. However, it seems unlikely that the scores occurred during the use-life of the object; contrarily, they may be more consistent with the practice of fragmentation to which the object was subjected before deposition.

38/31 (8133/15)
(Photograph by B. Toune)

**Description:** fragment of lower blade and socket of a spearhead. Most of the blade and tip missing.

**Dimensions:** Length (maximum) ca. 87 mm.

**Patina:** dull green patina with some rough lighter patches; some bronze showing. Details are locally good.

**Manufacture:** the decoration consists of a group of three engraved lines running parallel to the cutting edges. A series of ribs run over the length of the midrib. The cutting edge appears finely sharpened (Fig. A.310.1A-B).

**Use:** BLADE: on one wing, a deep cut is evident at the base of it (Fig. A.310.1D). It seems an old damage inflicted during the use-life of the object, and the patina which covers the break, may confirm this consideration.

**Other marks:** the metal is slightly bent and a hollow is evident at the lower break on one side (Fig. A.310.1C). It may be associated with the method used to fragment the spearhead (i.e. bending and hammering).

38/32 (8133)
(Photograph by B. Toune)

**Description:** fragment of the blade of a socketed spearhead.

**Dimensions:** Length (maximum) ca. 44 mm.

**Patina:** rough green patina. Details poor.

**Manufacture:** the decoration consists of grooves which run parallel to the cutting edges. No other information can be identified.

**Use:** the surviving cutting edges appear sharpened. No evidence can be related to use (Fig. A.311).
*Other marks:* a possible tool mark is associated to the upper break.
38/33 (8133/8)

(Picture by B. Toune)

**Description:** fragment of the tip of a socketed spearhead (Fig. A.312).

**Dimensions:** Length (maximum) ca. 57 mm.

**Patina:** rough green patina. Details largely obscured.

**Manufacture:** no information can be identified.

**Use:** no useful information

**Other marks:** the piece is slightly bent at the break, perhaps indicating that the breakage occurred through bending.

38/34 (8133/1)

(Picture by B. Toune)

**Description:** part of the blade and socket of a spearhead. Tip missing.

**Dimensions:** Length (maximum) ca. 138 mm.

**Patina:** rough green patina. Details are good.

**Manufacture:** the casting seams have been removed. Grinding marks are evident over the length of the blade.

**Use:** the cutting edges appear chamfered, perhaps through hammering and grinding. There are some chips in place (Fig. A.313.1A-B), but the extent to which they may have resulted from use is not clear, as the spearhead has been heavily distorted by purposeful damage. No other information is available.

**Other marks:** The piece considered here appears very damaged and deformed. The damage appear deliberate, as it probably occurred after the removal of the wooden shaft. The blade wings show substantial distortions (Fig. A.313.1C-D). The midrib presents a series of hollows which are likely to have resulted from hammering (Fig. A.313.1B). The socket has been flattened and tool marks are evident (Fig. A.313.1A).

38/35 (8133/4)

(Picture by B. Toune)
Description: part of the blade and the socket of a spearhead. Tip missing.
Dimensions: Length (maximum) ca. 67 mm; width (maximum) ca. 32 mm
Patina: rough green patina. Details poor.
Manufacture: the casting seams have been removed. Grinding marks are not evident.
   Ribs run over the length of the midrib.
Use: the cutting edges appear resharpened, and do not show marks that can be related to use. No other information is available.
Other marks: tool marks are evident at the upper break where the metal is also slightly bent (Fig. A.314).

38/36 (8133/3)
(Photograph by B. Toune)

Description: part of the blade and the socket of a spearhead. Tip missing.
Dimensions: Length (maximum) ca. 109 mm; width (maximum) ca. 39 mm
Patina: bronze showing; some green patches. Details poor.
Manufacture: grinding marks are evident over the length of the blade. An engraved line runs parallel to the cutting edges.
Use: BLADE: the cutting edges appear battered (Fig. A.316). The blade may have been resharpened, altering ultimately its original profile. At this regard it may be important to note that on one edge, one of the engraved lines stops at a point where the extreme edge may have been heavily been reworked (Fig. A.316). SOCKET: the socket remains in good condition.
Other marks: no useful information. There is no evidence of tool marks in association with the upper break (Fig. A.315).

38/37 (8133/13)
(Photograph by B. Toune)

Description: part of the blade and socket of a spearhead. Tip missing.
Dimensions: Length (maximum) ca. 83 mm; width (maximum) ca. 30 mm.
Patina: bronze showing; some green patches. Details good.
Manufacture: the casting seams have been removed. Grinding marks are not evident. The socket is polygonal.
Use: 

BLADE: the cutting edges show minor notches in place at the base of the blade on both the edges. The blade may have been resharpened, as the asymmetry between the two blade wings and the small oblique abrasion on the extreme edges may indicate (Fig. A.317).

SOCKET: the socket remains in good condition, apart from a small chip at its mouth.

Other marks: one tool mark is evident at the break and it may be related to the fragmentation of the object.

38/38 (8133/14)

(Photograph by B. Toune)

Description: part of the blade and socket of a spearhead. Tip missing.

Dimensions: length (maximum) ca. 89 mm.

Patina: bronze showing; some green patches. Details locally good.

Manufacture: no useful information.

Use: 

BLADE: the cutting edges do not show clear marks resulting from use. However, the blade edges appear resharpened (Fig. A.318).

Other marks: at the lower break the metal is slightly bent inward, indicating that, perhaps, the fragmentation was made by bending. There is no evidence of tool marks in association with the upper break.

38/39 (8133/10)

(Photograph by B. Toune)

Description: part of the blade and the socket of a spearhead. Tip missing.

Dimensions: length (maximum) ca. 175 mm; width (maximum) ca. 54 mm.

Patina: dark green patina with some bronze showing; Details are good.

Manufacture: the casting seams have been removed. On one side (Fig. A.319.1A.A), the decoration consists of two longitudinal and opposed rows of hatched triangles, one running parallel to the cutting edge and the other to the midrib from the base of the blade to a point approximately half way up the length of the blade. On the other wing, there is a row of hatched triangles parallel to the midrib, while on the cutting edge there are small oblique strokes flanked internally by a longitudinal engraved line (Fig. A.319.1A.C). The midrib is characterized by a “fish bone” motif (Fig.
A.319.1A.B). On the other side, the decoration on one of the blade wings consists of two longitudinal rows of hatched triangles, one running parallel to the cutting edge and the other one to the midrib (Fig. A.319.1B.C). On the other wing, the surviving motif consists of a band of two evenly spaced lines, which form a right angle. Small oblique strokes have been engraved within the space delimited by the two lines (Fig. A.319.1A.A).

**Use:** BLADE: the cutting edges do not show evident marks that may have resulted from use. However, the blade edges appear heavily resharpened, so that the decoration on the cutting edges appears altered and worn, especially in those points which may have been continuously resharpened. The tip may have broken off during the use-life of the spearhead, though other interpretations cannot be ruled out.

SOCKET: the socket appear in a good condition.

**Other marks:** the two holes which have been drilled at the base of the blade, may be modern and might have been done using an unsophisticated drill, as the the evidence of the unfinished hole may indicate (Toune personal communication) (Fig. A.320.A-B).
**Current Location:** Museo Archeologico Nazionale (Perugia).

**Date of find:** 1921-1922. The objects passed from hand to hand, being sold and acquired in the years which followed (Ponzi Bonomi 1970: 95-98).

**Chronology:** the hoard is attributed to a period ranging between the Final Bronze Age (10th century) and the beginning of the Iron Age (9th century). While the Cypriot imports (a tripod and a caldron) have been assigned to the beginning of the Final Bronze Age (FBA 1 – Late Helladic III C), it may be possible that the hoard was deposited between the second half of the 10th century BC and the first half of the 9th century BC (Ponzi Bonomi 1970; Vagnetti 1974: 663; Peroni 1996).

**Context of find:** it is possible that part of the objects contained in the hoard were brought from Piediluco (Site No. 38) to Contigliano soon after the discovery, where they may have been acquired by a founder in Terni (Umbria). Subsequently, the founder - perhaps - sold the objects to the Museum of Perugia (Ponzi Bonomi 1970: 97). For further details see Piediluco(Site No. 38).

**Contents:** the hoard, as described by Ponzi Bonomi (1970), contained: 7 winged axes; 4 shaft-hole axes and among them one example as cast; 1 socketed axe; 13 fragments of spearheads, among them a particular type of flamed spearhead with a decoration consisting of engraved lines or rows of hatche triangles running over the length of the cutting edge (see above Piediluco for parallels); 5 fragments of swords, one of which is bent (Fig. A23);
11 fragments of knives; bowed (6) and serpentine (11) *fibulae*, and 5 discs of *fibulae*; 2 fragments of horse gear; 3 fragments of chisels; 2 fragments of razors; 2 fragments of hammers; 6 fragments of sickles; some fragments of harpoons; cypriot imports: a handle, a fragment of a wheel and a fragment of tripod. The majority of the objects are very similar to those contained in the hoard of Piediluco. Ponzi Bonomi (1970: 153) considered these objects as unusable fragments belonging to a founder or merchant’s hoard. At the same time she does not rule out the hypothesis of a pre-currency hoard.

**Bibliography:** Ponzi Bonomi 1970; Vagnetti 1974.

**Examination of the spearheads:**

39/1

(Photograph by B. Toune)

**Description:** fragment of the blade of a socketed spearhead.

**Dimensions:** length (maximum) ca. 79 mm.

**Patina:** light green patina unevenly distributed over the surface; some encrustations.

**Manufacture:** the decoration consists of three engraved lines running parallel to the cutting edges. A series of ribs run over the length of the midrib (Fig. A.321).
Use: BLADE: the cutting edges do not show clear marks resulting from use. However, the blade edges appear resharpened.

Other marks: the piece considered here is bent. This evidence may suggest that the fragmentation was made through bending. There are no tool marks in association with the breaks.

39/2

(Photograph by B. Toune)

Description: fragment of the blade of a socketed spearhead.
Dimensions: length (maximum) ca. 160 mm.
Patina: polished light green patina. Details are good. Some bronze showing.
Manufacture: the decoration consists of two engraved lines running parallel to the cutting edges. A series of ribs run over the length of the midrib (Fig. A.322.A). A slight asymmetry is evident in the section of the blade and it may be due to core misalignment. Grinding marks are evident over the surface of the blade and at a point where the midrib and the blade itself conjoin.
Use: BLADE: the cutting edges do not show clear evidence of use-related marks. The edges appear eroded by corrosion.
Other marks: the fragment appears bent at the upper break. There are tool marks in association with the upper beak. This evidence may suggest that the fragmentation was made through a combination of bending and hammering (Fig. A.322.B). There are some scratches above the lower break on the midrib. These marks cannot be accounted for.

39/3

(Photograph by B. Toune)

Description: intact socketed spearhead.
Dimensions: length ca. 95 mm; width 25.
Patina: light green patina. Details are good.
Manufacture: the casting seams have been removed. It is possible that originally the midrib was rhomboidal (see below).
**Use:** BLADE: the cutting edges appear heavily resharpened and reworked as fine hammering and grinding marks associated with the cutting edges may indicate. The edges do not show any clear concussive marks. It is likely that the midrib, perhaps originally rhomboidal, was flattened on one side, while on the other side it retains the same shape included in the mould.

**Other marks:** the socket was crushed and the hollows in the metal may suggest that it was made intentionally (Fig. A.323.B). The tip area shows two substantial voids on the cutting edges; they may have resulted from use, but the regular shape of the parts missing might account for other interpretations (i.e. intentional removal) (Fig. A.323.A).

39/4 (49248)

(Photograph by B. Toune)

**Description:** fragment of the tip of a socketed spearhead.

**Dimensions:** length (maximum) ca. 130 mm.

**Patina:** rough green encrustations; some bronze showing. Details locally good.

**Manufacture:** a series of ribs run over the length of the midrib. No other information available. Grinding marks are not evident.

**Use:** BLADE: the cutting edges appear resharpened. One of the cutting edges shows an asymmetry approximately half way up the length of the surviving fragment, which can be interpreted as an attempt to smooth down an old damage. Apart from that there are no other marks resulting from use (Fig. A.324).

**Other marks:** no marks can be identified.

39/5

(Photograph by B. Toune)

**Description:** fragment of the blade of a socketed spearhead.

**Dimensions:** length (maximum) ca. 109 mm.

**Patina:** dull dark green patina with some lighter encrustations. Details locally good.

**Manufacture:** a series of ribs run over the length of the midrib. Four engraved lines run parallel to the cutting edges. A slight asymmetry is evident in section of the blade and it may be due to core misalignment (Fig. A.325).
Use: BLADE: the cutting edges do not show any clear evidence of concussive marks.

Other marks: the left edge shows a rather regular break which can be interpreted with confidence as the intentional removal of part of the blade wing (Fig. A.326). The fragment does not show evidence of tool marks relating to the breaking process.

39/6

(Photograph by B. Toune)

Description: fragment of the blade of a socketed spearhead.

Dimensions: length (maximum) ca. 87 mm.

Patina: green patina only on one side. Details locally good.

Manufacture: the cutting edges appear sharpened. A series of ribs run over the length of the midrib. Three grooves run parallel to the cutting edges. A slight asymmetry is evident in the section of the blade and it may be due to core misalignment.

Use: BLADE: the cutting edges do not show any clear evidence of concussive marks. There is a minor damage on the left edge approximately half way up the length of the fragment (Fig. A.327).

Other marks: the fragment remains straight and no evidence can be identified.

39/7

(Photograph by B. Toune)

Description: fragment of lower blade and socket of a spearhead.

Dimensions: length (maximum) ca. 116 mm.

Patina: dark green patina with lighter encrustations. Details partially obscured.

Manufacture: the casting seams have been removed. The midrib is flattened. No other information available.

Use: BLADE: the cutting edges appear resharpened. There is evidence of minor damage on the cutting edges which cannot be referred to use with confidence (Fig. A.328).

Other marks: the midrib shows a hollow approximately half way up the length of the surviving blade. The mouth of the socket has been crushed as hammer indentations may indicate. It presents two breaks on both sides; the metal has been bent and rolled up (Fig. A.329).
Description: fragment of the blade of a socketed spearhead.

Dimensions: length (maximum) ca. 170 mm; width ca. mm 95.

Patina: green patina with lighter encrustations; some bronze showing. Details are locally good.

Manufacture: the fragment appears well executed. The decoration consists of two series of grooves which run parallel to the cutting edges. The innermost line forms the base of a vertical row of hatched triangles. A series of ribs run over the length of the midrib (Fig. A.330.A).

Use: BLADE: the cutting edges appear neither worn nor heavily resharpened. No other information available (Fig. A.330.B).

Other marks: the fragment is bent (Fig. A.330.C) and hammer indentations are evident at the upper break; it may indicate that the fragmentation occurred through a combination of bending and hammering.

Description: lower blade and socket of a spearhead. Tip missing.

Dimensions: length (maximum) ca. 160 mm; width ca. 42 mm.

Patina: light green patina.

Manufacture: the fragment appears well executed. The decoration consists of a series of engraved lines which run parallel to the cutting edges. The socket is polygonal. No other information available.

Use: BLADE: the cutting edges appear slightly used.

SOCKET: some indentations are evident at the mouth of the socket and they may be related to an attempt to secure the head to the wooden shaft. This is only a supposition which does not rule out other interpretations (Fig. A.331).

Other marks: no evidence can be identified.
Description: socket of a spearhead.

Dimensions: length (maximum) ca. 105 mm.

Patina: light green patina.

Manufacture: the casting seams have been removed.

Use: no evidence can be identified. (Fig. A.331).

Other marks: there are some hollows at the upper break, which may have been made during the process of fragmentation.

39/11
(Photograph by B. Toune)

Description: fragment of lower blade and socket of a spearhead.

Dimensions: length (maximum) ca. 127 mm;

Patina: green patina stripped away; bronze showing.

Manufacture: the decoration consists of a series of engraved lines running over the length of the blade. The socket has a polygonal shape.

Use: BLADE: the cutting edges do not show clear evidence of concussive marks, apart from a notch at the base of the blade (Fig. A.333).

SOCKET: it remains in a fine condition.

Other marks: no evidence can be identified.

39/12
(Photograph by B. Toune)

Description: lower blade and socket of a spearhead. Tip missing.

Dimensions: length (maximum) ca. 170 mm; width 70 mm.

Patina: green patina with encrustations.

Manufacture: the decoration around the socket consists of cross hatched bands separated by a row of engraved arrows contained between bands of two evenly spaced lines. The decoration continues on the midrib and consists of a “fish-bone” motif, ending with a rhomboidal-shaped motif. The edges appear sharpened (Fig. A.334).

Use: BLADE: one of the cutting edges shows a bow at the base of the blade (Fig. A.335). It is likely to have resulted from use. The impact has probably caused the break visible
below the edge. Some other longitudinal and horizontal cracks are evident on the socket and the lower blade at a point where the midrib and the lower blade conjoin. They may have resulted from use, though other interpretation cannot be ruled out.

*Other marks:* the breakage may have been made by bending. No tool marks are associated with the upper break. Some modern scratches, which cut through the patina, are evident on one of the blade wings.
40. GOLUZZO (Siena, Tuscany)

Current Location: Museo Nazionale Preistorico Etnografico "Luigi Pigorini" (Rome);

Date of find: the hoard was found in 1882 (Orsi 1887: 111).

Chronology: the hoard is attributed to a period ranging between the the Final Bronze Age (10th century) and the beginning of the Iron Age (9th century) (Peroni and Carancini 1999: Tab. 32).

Context of find: the hoard was found near Chiusi. Peroni (1996: 333) mentioned the fact that the assemblage was found within a layer of charcoal and ashes.

Contents: the hoard, as described by Orsi (1887) contained prevalently tools (i.e. axes, chisels, fibulae and bronze vessels. All the objects appeared used and intentionally broken. The author interpreted the hoard as a smith’s hoard, according to the fact that ingots and more mundane objects were found together in the same hoard. Drawing from the evidence of the S. Francesco hoard (Bologna), in which the objects were carefully deposited, with the larger pieces at the bottom and the smallest on top, Gamurrini (1881: 86), tried to suggest a votive interpretation. Some of the spearheads contained in the hoards belong to a peculiar type, that is very well known in central italy (cf. Piediluco and Contigliano: Appendix 1.1: Type L40 B-C).

Bibliography: Gamurrini 1881; Orsi 1887; Peroni 1996.

Examination of the spearheads:

40/1 (23050 – 17511)

Description: lower blade and socket of a spearhead.

Dimensions: length (maximum ) ca.172 mm; width 67 mm.

Patina: Some bronze showing. Corroded surface.

Manufacture: the casting seams have been removed. Grinding marks are evident over the length of the blade. The decoration consists of grooves running parallel to the cutting edges (Fig. A.336). Small concentric circles are unevenly distributed over the surface of both the blade and around the rivet holes on the socket.
Use: BLADE: the cutting edges are battered over their length, and the corrosion build-up may have obscured the original extent of the evidence. There is also a substantial nick on one of the cutting edges (Fig. A.337).

Other marks: the fragmentation may have been done by a combination of bending and hammering (Fig. A.338). A deep hollow is also evident on the socket.

40/2 (23046 – 17515)

Description: fragment of the blade of a socketed spearhead.
Dimensions: length (maximum ) ca. 64 mm;
Patina: green patina stripped away. Some bronze showing.
Manufacture: grinding marks are evident over the length of the blade. The decoration consists of four grooves running parallel to the cutting edges. A series of ribs are evident on the midrib (Fig. A.339).
Use: BLADE: the cutting edges do not show any concussive marks. However, the edges appear resharpened, as the localized oblique grinding marks may indicate (Fig. A.340).
Other marks: a metal bar with a circular section on one end and a sharp edge on the other end has been bent and wedged into the upper break (Fig. A.339) (see Piediluco: 38/13 and 17). The object lodged in the channel may also be the tool used to break the spear.

40/3 (23038 – 17508)

Description: complete spearhead. Very similar to Contigliano 39/11
Dimensions: length (maximum ) ca. 193 mm; width (maximum) 36 mm.
Patina: rough green patina partially stripped away. Some bronze showing. Details are good.
Manufacture: the casting seams have been removed. The piece appears smoothed and polished. Grinding marks are evident over the length of the blade and in the hollow between the blade and the midrib. The decoration consists of two engraved lines running parallel to the cutting edges. The socket is polygonal (Fig. A.341.A).
Use: BLADE: the cutting edges appear battered over their length, showing only minor chips. They appear resharpened, as oblique grinding marks localized about half up
way up the length of the blade may indicate (Fig. A.342.A). On both the edges, the outer engraved line is preserved intermittently, indicating that the continuous resharpening of the blade edges eventually altered their original profile (Fig. A.342.B). The tip and the socket, apart from a chip at its mouth, remain in good condition.

**Other marks:** no evidence can be identified. Two deep scores at the base of the right blade wing (Fig. A.341.B) may be interpreted as modern damage, as they cut through the patina.

40/4 (23042 – 17510)

**Description:** socket of a spearhead.

**Dimensions:** length (maximum) ca. 80 mm.

**Patina:** glossy green patina with some lighter encrustations.

**Manufacture:** the casting seams have been removed. The socket is polygonal (Fig. A.343.A).

**Use:** the rivet holes appear strained (Fig. A.343.B-C).

**Other marks:** some indentation are evident over the length of the socket: at a point below one of the rivet holes, above the mouth of the socket and at the upper break (Fig. A.344). The latter may indicate that the fragmentation occurred through hammering.

40/5 (23041 – 17509)

**Description:** fragment of the channel of a socketed spearhead.

**Dimensions:** length (maximum) ca. 73 mm.

**Patina:** olive patina, with some green encrustation. Corrosion. Details are gone.

**Manufacture:** no evidence can be identified.

**Use:** no evidence can be identified.

**Other marks:** no evidence can be identified. No tool marks are associated with the breaks. The fragment remains straight (Fig. A.345).

40/6 (23047 – 17513)

**Description:** fragment of the blade of a socketed spearhead.

**Dimensions:** length (maximum) ca. 32 mm.
**Patina:** glossy green patina, with some green encrustation. Details locally good.

**Manufacture:** grinding marks are evident in the hollow between the blade and the midrib. The edges have been sharpened. The decoration consists of three grooves running parallel to the cutting edges.

**Use:** the surviving cutting edges appear worn (Fig. A.346). No major damage can be identified.

**Other marks:** the surviving fragment is slightly bent, indicating that the fragmentation was made by bending (Fig. A.347).

40/7 (23049 – 17512)

**Description:** part of the blade of a socketed spearhead.

**Dimensions:** length (maximum) ca. 140 mm; width ca. 61 mm.

**Patina:** dull light green patina, with some encrustations. Some bronze showing. Details are good.

**Manufacture:** the decoration consists of engraved lines running parallel to the cutting edges and two circumscribed circles, respectively at the base of one of the blade wings and at the lower break (Fig. A.348.B). It seems to be superimposed to the grinding marks, which are evident over the surface of the blade and in the hollow between the blade and the midrib.

**Use:** portion of the edges have been eroded by the corrosion. However, they do not show substantial marks, apart from a minor bow on one edge. Instead, they appear resharpened (Fig. A.349). At the same time, on one edge, just above the point of the maximum width of the blade the decoration appear worn, suggesting that probably the abrasive material used to resharpen the edges smoothed it down.

**Other marks:** hammer indentations are evident at the upper break on one side (illustrated (Fig. A.348.B) and at the lower break on the other side. The fragment remains straight. It seems worth noting that at the lower break a longitudinal piece of the blade has been cut at right angles to the other wings. A similar procedure has been already noticed in other two specimens, respectively contained in the hoard of Piediluco: 38/17 and Contigliano: 39/5. Some scratches on the surface of the blade can be associated to cleaning treatments as they cut through the patina.

40/8 (23044 – 17514)
Description: fragment of the blade of a socketed spearhead.

Dimensions: length (maximum) ca. 68 mm;

Patina: dark green patina, with some encrustations. Details locally good.

Manufacture: grinding marks are not evident. The decoration consists of grooves running parallel to the cutting edges. A series of ribs run over the length of the midrib. Surface pitting is evident in localized areas in the hollow between the blade and the midrib.

Use: the cutting edges appear worn and battered over the length of the surviving fragment, though the corrosion build up may have exaggerated the extent of the damage.

Other marks: hammer indentations are evident on both sides at the upper and lower break (Fig. A.350.A-B). Some scratches on the surface of the blade can be associated to cleaning treatments as they cut through the patina.

40/9 (23043 – 1756 (??))

Description: fragment of the blade of a socketed spearhead.

Dimensions: length (maximum) ca. 83 mm;

Patina: dark green patina, with some encrustations. Some bronze patches. Details partially obscured.

Manufacture: grinding marks are evident over the length of the blade. The decoration consists of two engraved lines running parallel to the cutting edges. The midrib has a polygonal section (Fig. A.351).

Use: the cutting edges appear worn, showing a substantial mark on the right edge (Fig. A.352).

Other marks: tool indentations are evident on one side at the upper break. The fragment shows a slight bend (Fig. A.351, 353). Both the evidence can be associated with the fragmentation process. Some scratches on the surface of the blade can be associated to cleaning treatments as they cut through the patina.

40/10 (23048 – 17517)

Description: fragment of the blade of a socketed spearhead.
**Dimensions:** length (maximum) ca. 83 mm;

**Patina:** blackish patina, with some green encrustations. Details are good.

**Manufacture:** grinding marks are evident over the length of the blade (Fig. A.354).

**Use:** the cutting edges appear resharpened and chamfered, as the oblique abrasions and the evidence of fine hammering on the cutting edges may indicate (Fig. A.355.A). There is an evident void on one edge, which shows fresh metal in section (Fig. A.355.B). The advanced corrosion may have exaggerated the extent of the damage.

**Other marks:** the piece is slightly bent and tool indentations are evident on both the breaks (Fig. A.355.B).
**LIMONE (Livorno, Tuscany)**

**Date of find:** the hoard was found in 1879 (Cateni 1977: 3). It was discovered by chance on the flank of a hill (Mount La Poggia). During the years after the discovery, the objects were sold and acquired by an antiquarian, who subsequently donated his private collection to the Museum (1883).

**Chronology:** the hoard is attributed to the end of the Final Bronze Age (Peroni and Carancini 1999: Tab. 32).

**Context of find:** the Limone hoard was made up by distinct groups of objects, perhaps surrounded by circles of stones (Cateni 1977: 4). This information seems to be strengthened by the fact that the antiquarian acquired different groups of objects at different times. The people who discovered it, suggested this hoard was found in a cave. At present, it is not possible to ascertain these information. According to the Museum catalogue, there was an original distinction between a first group made up from tools and weapons, a second group in which ornaments were the dominant class, and two more assemblages. Unfortunately it was not possible to ascertain the circumstances of the recovery so that this author has followed (with reservations) the reconstruction of a previous scholar (Callegari 1977: 5).

**Contents:** three out of four groups of objects were part of the same assemblage (hoard 1) as fragments of the same object which show modern damage, were found in different ‘groups’. However, these objects are not further specified (ibid. 5). The objects of the second hoard were kept separate because they showed a different patina and because the objects were attributed to a later period: the Iron Age. Leaving aside the latter, the former hoard contains, along with tools, spearheads and a miniature knife, a conspicuous number of fibulae, armrings and pins. The two spearheads belong to a type very common in central Italy towards the end of the Bronze Age (Appendix 1.1: Type L21A; L40A)

**Bibliography:** Cateni 1977.

**Examination of the spearheads:**

41/1 (1761)

(Photograph by Toune)
**Description:** intact spearhead.

**Dimensions:** length 270 mm; width 70 mm.

**Patina:** dull green patina; corrosion is evident at the base of the blade and on the socket. Details are good.

**Manufacture:** the casting seams have been removed. The piece appears polished (Fig. A. 357). Longitudinal grinding marks are evident over the length of the blade and in the hollow between the blade and the midrib. The corrosion eroded an originally sharpened edges.

**Use:** no evidence of concussive marks can be identified, apart from a notch at the mouth of the socket. However there are small horizontal abrasions, which are localized in the tip area and they may be related to maintenance work.

**Other marks:** no evidence can be identified.

41/2 (1762/1-2)

**Description:** two not-joined fragment of a flamed spearhead. The central part of the blade is missing.

**Dimensions:** length not available; width 30 mm

**Patina:** dull green patina; corrosion is particularly evident on the tip area. Details locally good.

**Manufacture:** the casting seams have been removed. The piece appears polished. Longitudinal grinding marks are evident over the length of the blade and in the hollow between the blade and the midrib. The corrosion eroded the originally sharpened edges (Fig. A. 358).

**Use:** BLADE: the blade edges appear battered, though the corrosion may have exaggerated the extent of old damage (especially in the tip area). The cutting edges appear resharpened.

SOCKET: the socket is notched at its base.

**Other marks:** no evidence can be identified on the surviving pieces.
42. CASALECCHIO (Rimini - Emilia Romagna)

**Current Location:** Museo Nazionale Preistorico Etnografico "Luigi Pigorini" (Rome).

**Date of find:** the hoard was found in 1865 (Morico 1997 a: 235).

**Chronology:** the hoard is attributed to the Final Bronze Age on typological ground (*ibid.* 242) end of the Final Bronze Age (Peroni and Carancini 1999: Tab. 32).

**Context of find:** the hoard was discovered by chance a few kilometres from Rimini. Subsequently, it was acquired by Costantino Frontali, a collector of local antiquities (Morico 1997 a: 235).

**Contents:** the hoard includes: two spears (NB. only one spear is held by the Museum) and an as-cast socketed arrowhead; eye hatchets, winged axes, chisels, hammers, sickles and fibulae and other ornaments as well as a bronze mould and metal lumps. The majority of the objects appears very worn and extensively used.

**Bibliography:** Morico 1977 a.

**Examination of the spearheads:**

42/1 (55965)

**Description:** joined pieces of a socketed spearhead.

**Dimensions:** length 157 mm; width 32 mm.

**Patina:** rough surface. Turquoise patches showing and whitish encrustations. Details are locally good.

**Manufacture:** no evidence available.

**Use:** BLADE: there are no use-related evidence. However the blade appears extensively reworked (Fig. A. 359).

**Other marks:** the socket is broken; however the breaks may represent a modern damage (Fig. A. 360).
43. MONTE PRIMO (Macerata, Marche)

*Current Location:* Museo Nazionale Preistorico Etnografico "Luigi Pigorini" (Rome); Museo Archeologico Nazionale (Perugia).

*Date of find:* the hoard was found in 1882 during construction works (Peroni 1963 a).

*Chronology:* the hoard is attributed to the Final Bronze Age on typological ground.

*Context of find:* the hoard was deposited in a cave on the flank of the Mount Primo.

*Current Location:* Museo Archeologico di Livorno.

*Contents:* the hoard includes complete and intentionally broken objects. The bronzes were deposited in a container and they refer to: axes, spears, *fibulae*, metal sheets, fragments of knives, bracelets, and a fragment of a sword.

*Bibliography:* Peroni 1963 a.

*Examination of the spearheads:*

43/1 (25294)

*Description:* intact spearhead.

*Dimensions:* length 133 mm; width 32 mm.

*Patina:* glossy blackish patina; some bronze showing Details are good.

*Manufacture:* the casting seams have been removed. The piece appears smoothed and polished. Grinding marks are evident over the length of the blade and in the hollow between the blade and the midrib. At approximately three quarters of the way up the length of the blade, the midrib has a rhomboidal section.

*Use:* BLADE: the cutting edges do not show concussive marks (Fig. A.361.A). However, they appear heavily resharpened and chamfered: the asymmetry between the two edges at the base of the blade may indicate that old damage had been smoothed down (Fig. A.361.D). The profile of the cutting edges show minor distortions, which may have resulted from use (Fig. A.361.C).

SOCKET: the rivet holes appear strained. The socket remains in good condition (Fig. A.361.A).

*Other marks:* the blade and the midrib show a series of longitudinal and oblique abrasions, which may be associated to maintenance processes (Fig. A.361.B1-2).
Interestingly, the oblique abrasion are localized in the upper half of the blade and exclusively on the midrib and on the cutting edge. The fact that those striations do not occur in the hollow where the blade and the midrib conjoin suggests that they were probably made with a stiff object or perhaps rubbed against a hard material. I believe that these abrasions were made in antiquity: in some cases they continue beyond small chips, which may also be the result of post-depositional processes (Fig. A.362).

A different interpretation may be that those abrasions resulted from resharpening which occurred immediately before deposition (cf. Fontijn 2003, 2005). Priuli (1991: 978) noticed that some depictions on rocks located in “ritual landscapes” in north Italy consist in tracing out the outline of the spearhead and its shaft, thus representing the object as closer as possible to its real proportions. The author suggests that it might result from the the practice of resharpening it against the rocks.

43/2 (30169)

*Description:* intact spearhead.

*Dimensions:* length 133 mm; width 37 mm.

*Patina:* glossy blackish patina; some bronze showing Details are good.

*Manufacture:* the casting seams have been removed. The piece appear smoothed and polished. Longitudinal grinding marks are evident over the length of the blade and in the hollow between the blade and the midrib. At approximately three quarters of the way up the length of the blade, the midrib has a rhomboidal section. This piece seems very similar to the previous one. The width of the blade is minor in the previous specimen, but it may be due to the fact that its blade was heavily resharpened, altering ultimately the original shape.

*Use:* BLADE: the cutting edges do not show concussive marks (Fig. A. 363.A). However, they appear heavily resharpened and chamfered, as oblique abrasions and localized hammering may indicate (Fig. A. 363.B). The tip is blunt and the rhomboidal portion of the midrib, below the tip, shows hammer indentations. Also in this case (see above 43/1) oblique striations, which do not occur in the hollow where the blade and the midrib conjoin, are evident, despite the fact that they are far less visible when compared to the previous spearhead. Some of those localized on the midrib seems to have been obscured by hammer indentations.
SOCKET: one of the rivet holes appears strained.

**Other marks:** the surface of the spearhead shows a consistent number of abrasions, which may be consistent with some treatments before deposition.

43/3 (30168)

**Description:** intact spearhead.

**Dimensions:** length 195 mm; width 64 mm.

**Patina:** glossy blackish patina; some bronze showing. Details are good.

**Manufacture:** the casting seams have been removed. The piece appear smoothed and polished. Longitudinal grinding marks are evident over the length of the blade and in the hollow between the blade and the midrib.

**Use:** BLADE: the cutting edges show some evident marks (Fig. A. 364.B-C). The blade may have been resharpened and chamfered, as oblique abrasions and localized hammering may indicate (Fig. A. 364.A). Also the tip seems reworked. Oblique striations, which must be associated with maintenance works, are evident on the edges and the midrib, and sometimes they are superimposed over longitudinal grinding marks.

**Other marks:** no evidence can be identified.

43/4

(Photograph by Toune)

**Description:** intact spearhead.

**Dimensions:** length 195 mm; width 64 mm.

**Patina:** blackish patina; white encrustations; some bronze showing. Details are good.

**Manufacture:** the casting seams have been removed. The piece appear smoothed and polished. Longitudinal grinding marks are evident over the length of the blade and in the hollow between the blade and the midrib.

**Use:** BLADE: the cutting edges do not show evidence of concussive marks (Fig. A. 365.A. However, the blade appear resharpened and chamfered.

**Other marks:** on both sides a line runs parallel to the cutting edge; it is localized at the base of the blade and in the middle of the blade, but not in the tip area. It does not seem decorative (Fig. A. 365.B).
44. FUCINO LAKE (Aquila – Abruzzo)

Current Location: Museo Nazionale Preistorico Etnografico "Luigi Pigorini" (Rome).

Date of find: this spearhead is part of a wider group of objects, which were found between the end of the 19th - beginning of the 20th century from different localities around the lake (Peroni 1961).

Chronology: the spearhead is attributed to a period ranging between the Recent-Final Bronze Age 1 (cf. Appendix 1.1: Type L17 A).

Context of find: no information available.

Bibliography: Peroni 1961 a (Tab. III.1).

Examination of the spearhead:

44/1 (32915)

Description: intact spearhead with a squat shape.

Dimensions: length 95 mm; width 2.2 mm.

Patina: rough green patina. Advanced corrosion. Details locally good (Fig. A. 366).

Manufacture: the casting seams have been removed. Grinding marks are faintly visible.

Use: BLADE: the blade shows deep nicks and notches over its length (Fig. A. 367).

Other marks: no evidence can be identified.
**Current Location:** Museo Nazionale Preistorico Etnografico "Luigi Pigorini" (Rome).

**Date of find:** this spearhead is part of a wider group of objects, which were found between the end of the 19th - beginning of the 20th century from different localities around the lake. This particular piece was acquired by De Nino, who subsequently donated it to the Museum (Peroni 1961: Tav. VIII. 3).

**Chronology:** the spearhead has a close parallel with the specimen mentioned above (context 44/1). Accordingly, we may extend to it the same chronology (cf. Appendix 1.1: Type L17 A).

**Context of find:** no information available.

**Bibliography:** Peroni 1961 a (Tab. VIII.3).

**Examination of the spearhead:**

45/1 (36417)

**Description:** intact spearhead with a squat shape.

**Dimensions:** length 95 mm; width 2.2 mm.

**Patina:** dull green patina. Details are good (Fig. A. 368).

**Manufacture:** the casting seams have been removed. Grinding marks are visible on the blade. The surface appear smoothed and polished.

**Use:** BLADE: the blade shows deep nicks and notches over its length, though corrosion may have exaggerated their extent. The asymmetry of the left edge may represent an old attempt to repair the spear (Fig. A. 369).

SOCKET: it remains in good condition.

**Other marks:** no evidence can be identified.
46. PERTOSA CAVE (Salerno – Campania)

**Current Location:** Museo Nazionale Preistorico Etnografico "Luigi Pigorini" (Rome).

**Date of find:** the two spearheads have been found within the Pertosa cave, which was extensively excavated at the beginning of the last century (Patroni 1900; Carucci 1907; for further bibliography see Rellini 1916; for more recent contributions see Kilian 1963-1964; Trucco 1991-1992).

**Chronology:** one of the spearheads (46/1) has a close parallel with one of the specimens from Coppa Nevigata (Appendix 1: 64. NB. this is the spear found under the wall of a structure). This spearhead may be attributed to a period ranging between the Recent-Final Bronze Age 1 (Appendix 1.1: Type SLS 10B). The second spearhead has a polygonal socket, feature that becomes common towards the end of the Bronze Age (46/2).

**Context of find:** The recent re-interpretation of both the old archaeological campaigns conducted between the end of the nineteenth century and the beginning of the twentieth century and the material evidence (Trucco 1991-1992) reveals that the cave has been frequented since the Late Neolithic (beginning of the Bronze Age). A consistent activity within the cave is documented in the Middle Bronze Age. Two major deposits have been found there: one outside the main entrance (stipe esterna) (Rellini 1916) and one inside the cave, whose chronological range is longer than that inside the cave (middle phase of the Middle Bronze Age to the Final Bronze Age) and somewhat different (cf. Chapter 5). Five spearheads have been found in the cave, and only two have been taken for edge-wear analysis.

**Bibliography:** Patroni 1900; Carucci 1907; Rellini 1916; Kilian 1963-1964; Trucco 1991-1992).

**Examination of the spearheads:**

46/1 (93538)

**Description:** intact spearhead with a squat shape.

**Dimensions:** length 105 mm; width 3 mm.

**Patina:** rough and thick brownish patina; some bronze showing. Details locally good (Fig. A. 370).
**Manufacture:** the casting seams have been removed. The different thickness of the wall, visible in section, may indicate core misalignment. Above the mouth of the socket small round tool marks are evident on both the sides of it. They may represent a not-finished decoration or an attempt to drill one more peg holes (Fig. A. 371). Grinding marks are not evident.

**Use:** BLADE: the blade do not show major concussion marks, a part from a bow one one edge. Part of the wing at the base of the blade is missing; the metal is smoothed in section, though some traces still in place may indicate the original extent of the wing (Fig. A. 372).

**Other marks:** no evidence can be identified.

**Description:** intact spearhead.

**Dimensions:** length 165 mm; width 35 mm.

**Patina:** dark green patina. Corrosion flaking away. Details are locally good.

**Manufacture:** the casting seams have been removed. Ribs run over the length of the midrib. Grinding marks are locally visible.

**Use:** BLADE: the edges are heavily eroded by corrosion. However, few notches are evident on the edges and they may have been inflicted in antiquity (Fig. A. 372).

**Other marks:** wood is found in the socket. The socket shows a longitudinal break, which may be consistent with the removal of wooden shaft prior to deposition (Fig. A. 373).
Current Location: Museo Nazionale Preistorico Etnografico "Luigi Pigorini" (Rome).

Chronology: the spearhead (53880) in the museum of Rome labels “from Terramare sites, probably Colombare di Bersano. Neither information about the circumstances of the recovery, nor the exact provenience is available. The spearhead is attributed to the Recent Bronze Age on typological ground (cf. Appendix 1.1: type L31).

Examination of the spearheads:

Description: fragments of a socketed spearhead.

Dimensions: cannot be measured.

Patina: dark green patina. Corrosion flaking away. Details are locally good.

Manufacture: due to the state of conservation of the spearhead, it is not possible to make any observation.

Use: no information is available.

Other marks: wood is found in the socket (Fig. A. 374).
48. TOMB OF VIA GORIO  (Como - Lombardy)

Current Location: Museo Civico Archeologico “Paolo Giovio” (Como)

Chronology: the spearhead is exposed - hafted - in a showcase. It probably belong to a tomb found in Via Gorio and it can be attributed to the end of the Bronze Age (9th century BC). No other information are available.

NB. cf. Chapter 7, Fig. 7.18.

Examination of the spearheads:

Description: socketed spearhead perfectly preserved.

Dimensions: cannot be measured.

Patina: bronze showing.

Manufacture: impossible o determine

Use: some notches are visible on the cutting edges.

Other marks: none.
Fig. A. 28

Fig. A. 29

Fig. A. 30
Fig. A. 364
APPENDIX 2.1: Circumstances of the recovery of the spearheads in the sample

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## APPENDIX 2.2: STATE OF COMPLETENESS OF THE SPEARHEADS IN THE SAMPLE (cf. Chapter 7, Table 7.8)

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<th>Almost Complete (part of the tip and edges missing)</th>
<th>Broken (blade complete and socket missing)</th>
<th>Broken (most of the tip missing, Socket complete)</th>
<th>Broken (blade or part of blade)</th>
<th>Fragment (only channel or part of it)</th>
<th>Fragment (only tip)</th>
<th>Fragment (only socket or small part of it)</th>
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APPENDIX 1.2: TABLE 1

TYPOLOGICAL CLASSES

BASIC SHAPES

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OTHER FEATURES

1. DECORATIVE ELEMENTS
2. MIDDLE AND SOCKET CROSS-SECTION
3. A STEPPED BLADE

LEAF-SHAPED (LS)
(maximum width corresponds to or is above the half of the blade)

SLIGHTLY-LEAF SHAPED (SLS)
(maximum width is less than half of the blade)

LANCEOLATE (L)
(maximum width is 1/3 or less of the blade)