

*South Italic military equipment:*

**The Cultural and Military Significance of the ~~South-~~  
Italic Warrior's Panoply from the 5<sup>th</sup> to the 3<sup>rd</sup>  
Centuries BC**

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## **The cultural and military significance of the south Italic panoply from the 5<sup>th</sup> to the 3<sup>rd</sup> centuries BC**

This thesis investigates the military equipment of the south Italic peoples known to the Romans as Samnites, Campanians, Lucanians and Apulians during the 5<sup>th</sup> to 3<sup>rd</sup> centuries BC. According to the ancient sources this period was characterised by two distinct phases of military conflict. The first phase was from the end of the 5<sup>th</sup> to the beginning of the 4<sup>th</sup> century when south Italic peoples seized control of Greek and Etruscan urban centres along the coast. The second phase was from the middle of the 4<sup>th</sup> to the early 3<sup>rd</sup> century when Roman involvement in the region resulted in a series of wars. Archaeological evidence shows that within this historical context a number of developments and innovations occurred in the south Italic panoply. Greek ideas and influences were adopted and integrated into native Italic forms of armour that suited local needs and tastes. It is also evident that south Italic arms and armour had a significant influence on the Romans. South Italic military equipment, however, has long been treated as an ancillary chapter to the better-documented Greek and Roman armies and never as a subject of investigation in its own right. This is surprising since such a large quantity of evidence exists from warrior burials, which consists of not only the arms and armour but of depictions of this equipment in tomb and vase-paintings. This thesis seeks to bring together a large corpus of material and information for the first time and investigate not only tactical and technical aspects but also less obvious meanings. These include questions of identity, cultural significance and the role of this equipment in a larger continuum of development and evolution.



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## **Chapter I: Military equipment in Southern Italy: evidence, context and meaning**

### **1.1 Introduction**

My research is on the military equipment of southern Italy in the regions of Molise, Abruzzo, Campania, Puglia, and Basilicata during the 5<sup>th</sup> to 3<sup>rd</sup> centuries BC. These modern regions overlap ancient territories that were inhabited by the tribal and semi-urbanised peoples known to the Romans as Samnites, Campanians, Lucanians and Apulians. According to the ancient sources, this period was characterised by two distinct phases of military conflict, both of which had significant impact on the political and demographic history of these regions and the later development of Italy as well. The first phase was covered the late 5<sup>th</sup> century and the first quarter of the 4<sup>th</sup> century, when native peoples, referred to as Samnites in Campania, and Lucanians in the region around Poseidonia, seized control of Greek and Etruscan urban centres. The second phase was from the middle of the 4<sup>th</sup> century to the first quarter of the 3<sup>rd</sup> century when Roman involvement in this region resulted in prolonged conflicts with a coalition of tribes, collectively referred to as the Samnites, although other peoples were also involved as either allies or enemies of one side or the other.

The history of the south Italic peoples is a complex subject where issues of identity, culture and political status were in a continual state of development and change. But things did not happen in a vacuum, and for this reason it is important that this study is placed within a clearly defined historical context. Although most of the literary sources that describe the 5<sup>th</sup> to 3<sup>rd</sup> centuries were written much later they are still extremely important and relevant. While the details of particular events may be suspect, the wars in which they occurred most certainly happened and during the dates attributed to the archaeological material and within the geographical regions described. As my research is on the military equipment of these regions, and during the period when these conflicts took place a number of important questions arise. To what extent and at what level is it possible to distinguish identities in southern Italy from their military equipment? What were some of the tactical and technical developments that occurred in arms and armour during this period? What does the panoply reveal about south Italic culture and society? And finally what role did it play in a wider context as part of the



continuum of evolution and development of military equipment in Roman Italy? These questions seek to dispel inaccuracies and misconceptions which have surrounded the arms and armour of southern Italy and to make an original contribution to the study of ancient military equipment.

In Bishop and Coulston's *Roman Military Equipment* 1993, Roman arms and armour were examined through a historical perspective, rather than looking at the various classes of equipment. This study traced the evolution of equipment from the Punic Wars to the fall of the Roman Empire. Snodgrass in the *Arms and Armour of the Greeks* 1967, followed a similar approach. Greek military equipment was analysed in chapters which corresponded to long established periods of Greek history, from the Mycenaean to the Hellenistic period. My thesis, however, has been organised into nine chapters which are based primarily on different categories of armour and weaponry. Unfortunately, the peoples whose military equipment I am studying are not nearly so well known as the Greeks or Romans, nor is their history so neatly categorised into familiar chronological divisions. In many instances the armour and weapons are radically different from the accoutrements of the Greeks and Romans and therefore require more detailed discussion and analysis.

In chapter one the focus is on the identities of the peoples who lived in southern Italy during the 5<sup>th</sup> to the 3<sup>rd</sup> centuries BC and the contexts in which south Italic military equipment appears. Chapters two, three and four are devoted to the types of body armour that were used by south Italic warriors. Chapter two analyses the triple-disc cuirass, one of the most typical forms of armour from this region and period. Chapter three looks at the Greek-style muscle cuirass, the Italic anatomical cuirass and the linen corselet. Chapter four examines the bronze greaves and other forms of leg protection. In each instance the characteristic features of the equipment have been described in which technical and tactical aspects are discussed. The equipment has then been typologically classified and its spatial and temporal distribution has been analysed. Chapter five looks at the south Italic bronze belt, a ubiquitous yet enigmatic part of the south Italic warrior's panoply. Chapter six examines the varieties of shields in use: the *aspis* or Greek hoplite shield, the assorted variant types, the *scutum*, the *pelte* and the *ephaptis*. Chapter seven is a brief study of the various types of javelins, spears, swords

and axes found in these regions. Chapter eight catalogues the distinctive tunic patterns that were worn by warriors and offers an interpretation of their importance and meaning. Finally, chapter nine summarises the most important aspects and developments of south Italic military equipment, and addresses the research questions posed at the start of this paper. The contribution of my research to the study of ancient arms and warfare is discussed and what still needs to be done.

Unfortunately, space precludes me from covering all items of the south Italic panoply; the most noticeable omission is a section on helmets. But of all items of equipment the helmet has been the most well documented and meticulously studied. Paddock's PhD thesis, *The Bronze Italian Helmet: The development of the cassis from the last quarter of the sixth century B.C. to the third quarter of the first century A.D.* 1993, was an exhaustive piece of research which covered the helmets of this region and period completely. I have also excluded items of horse armour which are sometimes found in south Italic contexts, as they are not immediately essential to understanding the warrior's panoply. In reference to place and tribal names I will use the anglicised version when the name is of a well-known entity in common usage. Thus, the *Campani*, *Lucani* and *Apuli*, will be referred to as Campanians, Lucanians and Apulians. Latin forms will be retained for those tribes that are less familiar, such as the *Opici*, *Iapygi*, *Frentani* and *Sidicini*. Latin or Greek terms for weapons and armour will initially be *italicised*, but thereafter will appear in plain text. To reduce the amount of repetitive bibliographical information within the text I have inserted catalogue numbers in brackets from my data tables when referring to specific artefacts. These catalogue numbers appear as capital letters followed by a numeral in brackets, such as (T1, IC2, WP3) and full details can be found by consulting the data tables. All dates, unless otherwise noted, are B.C.

## **1.2. Present state of research on south Italic military equipment**

South Italic military equipment has always been examined as ancillary to that of the better-documented Greek and Roman armies. This is surprising considering the large amount of south Italic arms and armour, and representational sources depicting this equipment, far exceeds the Greek and Roman material available from the same period. Yet, there has never been an attempt to collate and analyse this extremely important

corpus of material. Items of south Italic armour are often singled out to show how Greek equipment and methods of warfare influenced and Hellenised the less advanced native populations (Hagemann *Griechische Panzerung*, 1919; Snodgrass *Arms and Armour of the Greeks*, 1999; Jarva *Archaiaologia on Archaic Greek Body Armour*, 1995). In the case of the Romans, Italic equipment is shown only as an introductory episode to the later Augustan and imperial material (Warry *Warfare in the Ancient World* 1980; Bishop and Coulston *Roman Military Equipment* 1993; Feugere *Weapons of the Romans* 2002). A better treatment of south Italic armour is given in Connolly's *Greece and Rome at War*, 1982. But this is not as comprehensive or detailed as the subject demands, and is included as part of a survey of ancient warfare in which the military systems of the Greeks and Romans are the main focus.

Works that are devoted to Italic armies and warfare, such as Saulnier's *L'Armée et la Guerre chez les peuples Samnites (VII-IVs)*, 1983, and Schneider-Herrmann's *The Samnites of the Fourth Century BC*, 1996, fall short of the thoroughness needed. Saulnier's methodology is flawed by drawing on material indiscriminately from across southern Italy and over several centuries. His crude line illustrations do little to clarify discussion, and he is reliant on many secondary sources for interpretation, especially Salmon, *Samnium and the Samnites*, 1967. The usefulness of Schneider-Herrmann is limited by her dependence on the literary and representational sources, and her poor understanding of the equipment they describe or depict. She often misinterprets items of equipment and its true purpose or function. In discussing the Nolan tomb painting known as 'the warriors procession', she describes the warriors wearing white linen corselets, and cites Livy as referring to these (IX.40, Schneider-Herrmann 1996: 49). Livy actually refers to 'white linen tunics'. I have examined the 'Procession' fresco in Capua Vetere, and the armour is painted yellow, the same colour as the helmet, belt and greaves, all of which would be made of bronze. The armour depicted is in fact, a rectangular anatomical cuirass, and as the resemblance is unmistakable, it is evident that Schneider-Herrmann had never examined this equipment first hand (see Connolly 1981: 108).

The most useful works are devoted to individual items of equipment within the south Italic panoply. Suano's *Sabellian-Samnite Bronze Belts in the British Museum*, 1986, and Paddock's PhD thesis, *The Bronze Italian Helmet*, 1993, both provide an

excellent analysis of the distribution of this equipment and established typologies for a chronological framework. What these studies failed to offer was any insight into the equipment's role as part of a panoply, or any interpretations of either its function on the battlefield or meaning in society. Small's article, 'The use of javelins in central and south Italy in the 4<sup>th</sup> century BC', 2000, examined the use and development of javelins from evidence found in tombs and the iconography. He also illuminated the difficulties in establishing typologies for the large diversity of spear and javelin heads used and instead concentrated on general chronological trends and regional variation. Connolly's study 'Notes on the development of breastplates in Southern Italy', 1986, established basic typologies for the triple-disc and anatomical cuirasses based largely on stylistic changes of the breastplates. The study, however, was limited to a small number of mostly unprovenanced cuirasses from old collections, thus prohibiting any analysis of chronology and distribution.

### **1.3. The identities of the south Italic peoples**

Originally, the title of my thesis was 'the cultural and military significance of the Samnite warrior's panoply'. It was my naïve belief that the term 'Samnite' and those of the other south Italic peoples were accepted historical entities and therefore did not require a great deal of explanation. However, upon presenting my thesis topic at my first year review I was confronted by an incredulous research committee on the validity of such ethnic terms. Peter Ucko, the director of the Institute of Archaeology exclaimed, 'who on earth are the Samnites?!' The committee strongly voiced their disagreement about using ethnic terms used in ancient sources and argued for more objective terms in describing the inhabitants of southern Italy. They were deeply sceptical about the very existence of the Samnites, and stated these tribal names were merely labels the Greeks and Romans had used to describe the various peoples around them and had little basis in reality. I was left with the feeling I had drawn these terms from an episode of *Star Trek* rather than an ancient source. I was, however, quite certain there was more historical substance to the Samnites, Campanians and Lucanians than the fictitious Klingons, Vulcans and Romulans.



Therefore, before beginning any full-length investigation or discussion of the armour and accoutrements of the south Italic warrior, it is important that I state exactly what I mean when conceptualising Samnite identity. The term Samnite, and those of the related peoples known as the Campanians, Lucanians and Apulians, carry with them many implied meanings when used by both ancient and modern authors. In modern usage, Samnite often encourages the misconception that we are dealing with a nation state, or a single bounded entity that identified itself by this name (Jones 1996: 15-24). But this is by no means clear. It would seem in this case that convention and accuracy are not in accord when describing the ancient Italic peoples of Molise, Abruzzo and Campania. Whitehouse and Wilkins state that almost all other authors on this subject refer to the 'native peoples' of southern Italy 'by a series of 'tribal' names attributed to them by Greek and Roman authors' a practice they found both ambiguous and contradictory due to the uncritical use of ancient literary sources. They continue, 'it was natural for the Greek and Roman writers to conceptualise the world around them in terms of 'peoples' to whom they could attribute names, but that there was no *a priori* reason to deduce from this that the pre-Greek occupants of southern Italy actually thought of themselves as one people or a number of peoples' (1995: 121).

Whitehouse and Wilkins are correct in their assessment that the use of tribal names given by ancient sources for the pre-Greek populations of southern Italy from the 10<sup>th</sup> to the 5<sup>th</sup> centuries is both inaccurate and misleading. Many of these names are derived from eponymous heroes of Greek mythology or the semi-legendary maritime invasions that took place after the Trojan War cycle. Thus we find heroes such as Heracles, Ulysses, Aeneas, Tyrrhenus, Oenotrius and Pucetius arriving in Italy to found cities or mix with aboriginal populations such as those ruled by the kings Daunus in Apulia and Latinus in Latium which in turn give rise to new tribal groups (Pallottino 1991: 25-27). There is no archaeological evidence to show that any of the native Italian peoples ever thought of themselves in these terms, nor do we find later accounts or inscriptions referring to these terms. The closest written accounts come to this period are by several centuries, and most of our ancient sources had no first, or even second hand knowledge of Italy, relying instead on semi-mythological traditions.

The ambiguity and contradictory nature of the written sources make it virtually impossible to attribute identities to the archaeological evidence with any degree of truth or objectivity at this early date. Yet, archaeologists have used these tribal names without much thought to their derivation or historicity. They have taken what meagre and ambiguous epigraphic evidence there is from non-Greek populations, and attributed it to the dubious identities from ancient sources, as physical evidence of their existence. This practice has then been applied to other forms of native material culture, which are then plotted within geographic areas to delineate supposed tribal territories. All of these terms serve to compound the distinction between the semi-mythological peoples of written sources and the historical reality of the archaeology (Whitehouse *et al* 1985: 90-92). The need for objective terms to describe the archaeological record is clearly essential in this instance. Whitehouse reasons that 'there exists no satisfactory term to describe such local peoples. 'Local' is imprecise; 'indigenous' is inappropriate, because of its implication of permanent habitation since the beginning of time; while 'native' carries romantic or colonial overtones. As the least evil we choose 'native' here' (Whitehouse *et al* 1995: 124). Clearly, the hesitancy and avoidance of using the tribal names from ancient sources for the pre-Greek populations of southern Italy in the 10th to the 5th centuries, is both justified and necessary.

#### **1.4. The Italic peoples of the 5<sup>th</sup> – 3<sup>rd</sup> centuries**

'Once upon a time when the Latins, the Umbrians, the Ausonians and many others were all called Tyrrhenians by the Greeks, because they were remote places, and therefore knowledge of them was imprecise . . .' (Dionysius *Ant. Rom.* I.29.2).

There is a distinct difference between the ancient sources used to describe the pre-Greek populations of Italy, and those which deal with the Italic peoples of the late 5<sup>th</sup> to the early 3<sup>rd</sup> centuries. No longer are these peoples shadowy entities on the periphery of the Greco-Roman world, who suddenly materialise and then just as rapidly disappear. They are entities that interact with the Greeks and Romans in a very real and lasting way. In many cases, we have epigraphic evidence referring to peoples, such as the Campani, Pentri, Carriceni, Frentani, Brutti and others, although this should not be regarded as a prerequisite to identifying them. In the context of military studies the wars fought against

these peoples are more detailed and prolonged, and the results more consequential to the Greeks and Romans writing about them. I speak most specifically of the peoples of southwestern Italy known as the Samnites, Campanians and Lucanians. Here we have the usual origin myths associated with almost all of the Italic peoples, but also details of territories, known geographical locations and specific dates. It is true that the territories, and the identities of the Samnites, Campanians and Lucanians developed and altered over time and in response to political events. But this could also be said of the Romans and of the concept of being Roman.

Salmon asserts, 'one thing that is possible is the reasonably confident identification of the different Italian peoples in the fourth century and the areas in which they lived' (1981: 2). He does, however, state that only the languages of these peoples, when known, give any idea as to their origins. A frequently cited source for the migration and formation of the Samnites and other Italic peoples are the *ver sacrum*, or sacred spring myths. These rites entailed invoking the aid of a god, usually *Mamers* (Mars), to overcome an enemy in battle or some type of natural catastrophe. In return for this divine assistance they would dedicate everything born that spring to the god. Upon reaching adulthood the consecrated would leave the tribe to seek out new lands, usually following an animal sacred to the god, such as a wolf, bull or woodpecker. The Samnites for example were reputed to have arrived in their lands when 'the bull they were following lay down in the land of the Opici. They settled the land after sacrificing the bull to Mars' (Strabo V.4.12). The so-called Opici or Osci were the proto-historic people, who were displaced or assimilated by the Samnites, and it is from them that the name of the language, Oscan, is believed to have derived. The Oscan language survives on numerous epigraphic texts and also graffiti, evidence which spans a period from the 5th to the 1st centuries. According to ancient sources Oscan was the language spoken by the Samnites, Campanians, Lucanians and many other peoples of southern Italy (Livy VII.2.13, X.20.5). The 3<sup>rd</sup> century poet, Quintus Ennius, himself a non-Roman and an Oscan speaker from Apulia, is quoted referring to the Brutti as bilingual (Festus.25). From the modern region of Calabria in the territory reputed to have been inhabited by the Brutti coins and tile stamps have been found in both Greek and Oscan language (Sironen 1987: 146).

Strabo claims that the sacred spring rites were the impetus from which many of the other Oscan speaking peoples were formed 'both the Picentini and the Samnites are colonists of the Sabini, and the Leucani from the Samnites, and the Bruttii from the Leucani' (Strabo V.3.1). 'the Hirpini too are Samnites; they got their name from the wolf that led the way to their colony (for "*hirpus*" is what the Samnites call the wolf)' (Strabo V.4.12). Whitehouse in her effort to reconcile the validity of the written sources with the archaeological evidence admits, 'at present we do not have a satisfactory body of theory to tell us what to expect as the archaeological manifestations of migration and invasion' (1985: 100). Despite the problem of how to approach the archaeological evidence, we cannot deny or ignore the possibility that these events could have happened. Other Italic cultures, such as the Romans, have equally problematic foundation or origin myths, which would be impossible to prove archaeologically. Yet, even if the historicity of these myths is lacking, they are still a means by which a people, or peoples, define themselves and others. If the *ver sacrum* myths were the extent of the written evidence we had about the Samnites, Campanians, Lucanians and Apulians I would agree with the completely objective approach to their proto-historic period. But, as I shall demonstrate, it is not. Therefore, I do not believe that the most we can hope for is the generic and imprecise terms of native or indigenous to describe these peoples (Whitehouse 1995: 124).

### 1.5. Literary references to the Samnites, Campanians and Lucanians

I will now examine the literary evidence for the tribal names used by ancient authors and the chronology of that usage. An interesting aspect of Livy's writings about the Samnites is the way in which they slowly come into focus. In 423 the Samnites are first introduced as émigrés to the Etruscan city of Volturnum, which becomes Capua (IV.37). In 354, we have the first mention of a Samnite political entity when they enter into a treaty of friendship with Rome (VII.19). Later, when the entities, known as Rome and Samnium, finally come to blows in 343 the Samnites are described collectively as 'a people who were strong both in resources and arms' (VII.29). This begins the long narrative of the Samnite Wars, 343-283, covered in books VII-X. Livy shows that he is conscious of the nature of the Samnites as a political entity in 317 when he refers to 'the envoys from the populous Samnite states' (IX.20). Yet he does not bother to differentiate



between the individual tribes or states of Samnium unless there is some noticeable distinction or their political actions differ in regard to Rome.

The first mention of an individual tribe is in 311 when he refers to 'Bovianium, the capital of the Pentrian Samnites, which was by far the wealthiest of their towns' (IX.31). During the Second Punic War the Pentri are mentioned again, as the only Samnite tribe not to defect to Hannibal after Cannae. It is then that we first hear of Roman attacks directed against 'the territory of the Hirpini and the Caudine Samnites' (XXIII.41.14). Speaking of his own family, Velleius Paterculus eulogised the exploits of his grandfather, Minatius Magius, who displayed such loyalty to the Romans during the Social War by raising 'a legion from among his own people', the Hirpini (*Histories* 2.16.1-2). From the same period Strabo claims that Sulla justified his massacre of captives after the battle of the Colline Gate by stating 'he had realised from experience that not a Roman could ever live in peace so long as the Samnites held together as a separate people' (V.4.11). This statement could easily be contested as a piece of Sullan propaganda, but the tradition of enmity between the Romans and those peoples referred to as Samnites was a long one, and must have engendered a sharp awareness of **us** and **them** from an early date.

Livy tells us that in 423:

'the Etruscan town of Volturnum was seized by the Samnites, who gave it its modern name of Capua . . . The seizure of the town took place in peculiarly horrible circumstances: the Samnites had been allowed by the Etruscans, whose strength had been drained in war, to share the amenities of the town and in working the land belonging to it, and one night, after a public holiday, when the native Etruscans were sleeping off the effects, they set upon them and butchered them' (Livy IV.37).

The Samnites are henceforward referred to as 'Campani'. Earlier, however, Diodorus mentions that 'the nation of the Campani was formed' in 438 (XII.76.4). We are not informed of what happened immediately after this, or even what this meant politically, but from the events described by Livy in 423, it would seem to be of a military nature. Two years after the fall of Volturnum the Greek city of Cumae [Cyme] was attacked; 'In Italy the Campanians advanced against Cyme with a strong army, defeated the Cymaeans in battle, and destroyed the larger part of the opposing forces. And settling down to a siege, they launched a number of assaults upon the city, and took

it by storm. They plundered the city, sold into slavery the captured prisoners, and selected an adequate number of their own citizens to settle there' (Diodorus Siculus XII.76).

The fall of other Greek and Etruscan cities, such as Pompeii, Nola, Nuceria, Herculaneum and Surrentum, is implied by archaeological evidence such as Oscan inscriptions (Oakley 1995:8). Only the Greek city of Naples survived complete conquest by admitting the invaders to the ruling class, as Strabo mentions: 'their demarchs, for the earliest are Greek only, whereas the later are Greek mixed with Campanian' (Strabo V.4.7). Capua remained Campanian until its capture by Rome during the 2nd Punic War in 212. Cumae remained Oscan speaking, until 180 when it petitioned Rome to change its official language to Latin (Livy XL.42.15). We know from graffiti that Oscan was still spoken in Pompeii even after the 1<sup>st</sup> century BC. For these reasons I do not feel the term 'Campanian' is inappropriate for the inhabitants of this areas, or that there was not a connection with the Samnites.

In describing the regions of Italy as divided by Augustus, Pliny writes:

'from the river Sele begins the III region: Lucania and Bruttium, characterised by a large variety of peoples: it was occupied by the Pelasgians, the Oenotrians, the Itali, the Morgeti, the Siculi, mostly the Greeks and finally the Lucanians, descendants from the Samnites, who are called after their chief Lucio. The town of Paestum is called Poseidonia by the Greeks' (Pliny N.H. III.71).

Pliny lists both mythical and historical peoples together in the order in which they were believed to have lived in this region. Strabo claims, 'the Lucanians are Samnites as regards to their stock; but as they had defeated Poseidonia and its allies they occupied their towns' (VI.1.3). Poseidonia fell to the Lucanians in 410, and by 390 the city of Laus was also in their hands (Diodorus XIV.101-102). Both Livy, (per XIV) and Velleius Paterculus (I.14.7), state that a Roman colony was founded in Paestum in 273, and Strabo mentions that the city was taken from the Lucanians (V.4.13). On the basis of these accounts, I do not think it is unreasonable to assume that from 410 to 273, Paestum was inhabited by Lucanians who the ancients believed were in some way related to the Samnites.

### 1.6. Later evidence for the existence of tribal territories

During the principate, Augustus partitioned Italy into eleven regions to serve as administrative districts. This was not an arbitrary division, nor was it one dictated by the exact boundaries of earlier divisions. But as will be shown, these regions did largely correspond to the lands attributed to former tribal peoples. Pliny, in his description of Italy, used Augustus' regions as an organisational framework. We can see that he only defines the boundaries of a particular region along coastlines; he does not differentiate the borders between individual tribes. Instead, he lists the towns of each Italic tribe alphabetically within each region. For example 'the fourth region, which includes the very bravest races in Italy . . . in the region of the Samnites, who once were called Sabelli and by the Greeks Saunitae, the colony of old Boiano (Bovianum) and the other Boiano that bears the name of the eleventh legion, Alfidena, Isernia, Fagifulani, Ficolea, Supino and Terevento' (Pliny N.H. III. XII.107). The tribal lists appear to be quite accurate as they correspond with the towns credited to them by the tradition of earlier accounts. Throughout the Imperial period, however, the boundaries of the Augustan regions fluctuated and were changed, and towns were subsequently included or excluded from different regions.

Epigraphic evidence from the imperial period refers to officials called *correctores*, who governed these Italic regions. Inscriptions from Grumentum, Regium Iulium and Salernum all refer to the *corrector Lucaniae et Bruttiorum* (Thomsen 1946: 203). Inscriptions show that Praeneste, Antium, Privernum, Formiae, Tarracina, Atina, Suessa, Teanum Sidicinum, Capua, Atella, Liternum, Puteoli, Naples, Nola, Abella, Telesia, Abellinum, Beneventum, Cumae, Acerrae, Baiae and Misenum all belonged to the region of Campania (Thomsen 1946: 212). Those from Anxanum, Histonium, Iuvanum, Aesernia, Venafrum, Allifae, Telesia, Saepinum, Teanum Apulum and Terventum lay within the region of Samnium (Thomsen 1946: 213). Thomsen concludes his study of the Italic regions with the statement that, 'the boundaries fixed by Augustus mainly separated old Italic tribal territories. Thus the Italic tribes have put their stamp on the map of Italy for several centuries after they had lost their political importance, and accordingly the division into districts of ancient Italy represents a continuity not only through nearly six hundred, but through more than one thousand years' (1946: 315-16).

It has not been my purpose by examining the later divisions of Italy, to try and outline fixed boundaries or the precise affiliations of individual towns, and then extrapolate this information back to the 5<sup>th</sup> to 3<sup>rd</sup> centuries BC. Rather, I wish to demonstrate that these Italic regions of the imperial era, their names and the general area that they encompassed, show a connection with the earlier domains ascribed to the peoples known as Campanians, Lucanians and Samnites during the 5<sup>th</sup> to 3<sup>rd</sup> centuries (fig.2). This connection must have some basis in historical reality as opposed to those attributed to the pre-Greek native peoples of the 10<sup>th</sup> to the 5<sup>th</sup> centuries by modern historians.

### 1.7. Physical evidence for south Italic identities attributed by the written sources

Clearly there is a literary tradition regarding the identities of the Samnites and their linguistically and possibly culturally, akin neighbours the Campanians and Lucanians. The literature in itself, however, cannot be taken as proof of the identities stated by ancient authors, given the ambiguous and contradictory usage of earlier tribal names. The Imperial tradition, in which the regions of Italy were named after the pre-Roman peoples who were believed to have inhabited them, could also be deemed as merely the perpetuation of constructed identities propagated by Romano-centric literature. It remains for us to examine what archaeological evidence there is from these areas during the 5<sup>th</sup> to 3<sup>rd</sup> centuries, so that we can 'attempt to cast off the shackles of the pseudo historical approach' (Whitehouse 1995: 103). I have compiled a list, which is by no means exhaustive, of archaeological evidence for Oscan-speaking peoples, which is referred to specifically in the ancient literary sources. I have put the original Oscan spelling in bold italics to differentiate them from the more familiar latinised version, which is in italics only.

From the area of the Frentani, a people referred to by Strabo as a 'Samnitic tribe', is an Oscan inscription on a bronze knucklebone, probably a weight, bearing the tribal name, *Frentiais* (Strabo V.4.2, *Sannio* 1980:41, Panciera, *Epigr.* XL 1978:53). There are also coins bearing the legends *Frentrei* - *Frentri* and *Freternum* - *Freternorum* (Zvetaieff 1878: 86, no.164). The Oscan speaking Sidicini, mentioned by Strabo as a small Samnitic people, who were later attacked by the Samnites, had their principal settlement in Teanum (Strabo V.3.9, *Livy* VII.29). From this location is an epitaph from



the city wall of Teanum which reads *Tianud Sidikinud - Teano Sidicino* (Zvetaieff 1878: 87, no.173), as well as *didrachm* from the 4<sup>th</sup> century with the Oscan legend *Tianud* (Pallottino 1991: pl.29). Out of Calabria in the area attributed to the Brutti are *tetradrachmae* from the 4<sup>th</sup> and early 3<sup>rd</sup> centuries, with the Oscan name in Greek script *BPETTIΩN* (Salmon 1982: 108, Pallottino 1991: pl.29).

Evidence for the supposed Campanian mercenaries who settled in Messina in 282, is found from a large array of coin issues, in Greek script but Oscan language, with the legend *MAMEPTINΩN* (Polybius I.7-8, study of Mamertine coins). From Messina are several inscriptions in stone referring to the *ΤΩΕΤΟ ΜΑΜΕΡΤΙΝΩΝ - Civitas Mamertina*. Of unknown provenance is a bronze *pilos* helmet with an inscribed dedication in Greek *μαμερεκιες* (Tagliamonte 1994: 255-258, Tav.XVIII, XXII). Another less known enclave of Oscan speaking mercenaries in Sicily was based in Entella. According to Diodorus they were Campanian cavalrymen who had seized the place by treachery in 404, much the same way as Capua was taken (XIV.8-9). Proof of their identity comes from several issues of coins, which on the obverse have a horse and the legend *ENTEΛΛΑΣ*, and on the reverse a Samno-attic helmet with the legend *KAMITANΩN* (Tagliamonte 1994: 243-245, Tav.VIII). At least in this instance the archaeological data tallies with the written sources, and it is made clear who they perceived themselves to be.

Moving to the area of my study region and the peoples of Campania, we find coins with the legend *Kampanos*, and the alternative spelling *Kappanos*, often with the device of a man-faced bull (Vetter 1953: 133; Rutter 1979: 81). This iconographical representation begins to appear on Roman coins after the Latin War, circa 343, when Livy says 'the Campanian *equites* were granted Roman citizenship, and to commemorate this a bronze tablet was attached to the temple of Castor in Rome' (VIII.12). Coins with the Man-faced bull device were struck in the Campanian towns of Capua, Naples, Cales and Hyria during the Samnite wars of the 4th century, and seem to indicate some sense of shared identity. Livy refers to a *praetor Campanus* (XXIII.7.8), which is found in Oscan epigraphic evidence as *Meddiss tuvtiks kapv* (Vetter 1953: no.88; Frederikson 1984: 138). A tufa inscription from Capua also refers to the abbreviated *med kapva* (Zvetaieff 1878: 28, no.41). Interestingly, some evidence for the Campanian take over of Cumae in

the late 5th century (Diodorus Siculus XII.76) seems to be implied from several Cumaean *didrachmae*, which were overstruck with Campani legends (Rutter 1979: 107, 178-79). For the Lucanians a coin with the legend, *λουκανοι* has been found in Greek script, although its provenance is unknown (Zvetaieff 1878: 89, no.183).

Finally we come down to the Samnites, the reputed progenitors of all the peoples listed above. According to ancient sources their territory was within the modern regions of Molise and Abruzzo. A coin minted in Tarantum, from around 330, has the legend *Σαυνιταν*, it should be noted that Pliny states explicitly that the Samnites were called 'by the Greeks, Saunitae' (III.XII.107, Sambon1903: 110). Still, this only proves that during the 4<sup>th</sup> century the Greeks used this term to describe a people or peoples, which the Romans equated with Samnite. We find another contemporary reference from the Sarcophagus of Lucius Scipio Cornelius Barbatus, who fought against the Samnites in 299-96 (Livy X.11-26). The inscription claims he conquered Lucania and captured the cities of Taurasia and Cisauna in Samnium (Pallottino 1991). This again only shows that in the 3rd century the Romans were at war with a people from *Samnitium*.

At Pietrabbondante, in the territory which Livy attributes to the Pentri Samnites, is a stone slab dating from the 3<sup>rd</sup> century. The Oscan inscription refers to the *keenzstur Aiieis Maraiieis* - *ensor Aius Marius*, of *Safinim* - *Samnitium* (Pellegrini 1978: 78; Zvetaieff 1878: 17). It is clear that the people who set this stone up believed themselves to be *Safinies*, and experts in etymology believe this is where the Greek Saunitae, and Latin Samnite are derived from (Salmon 1967: 28, Small 2000: 232). Finally, from the 1st century is a coin from the Social War, which names *G. Mutil* - *Gavius Mutilus*, who is cited by ancient sources as the commander of the Samnites (Livy *Epit.*89; Appian I.53; Velleius Paterculus *Hist.*2.16.1). On the obverse of this coin is Oscan legend *Safinim* (Zvetaieff 1878: 89, no.187). Interestingly, many other coins from the Social War with the Mutilus legend have an obverse of *Vitellieu* - *Italia*. The *Safinim* issues may have been issued towards the end of the Social War, when by either force or reconciliation 'the whole of Italy came into the Roman state except, for the present, the Lucanians and the Samnites' (Appian I.53).

Having presented actual physical evidence, of coins and inscriptions that refers to the tribal names given by ancient authors, within the geographical areas and temporal

periods attributed to them, I believe there is a legitimate claim for the usage of the terms Campanian, Lucanian and Samnite. Beyond this I can offer no other evidence, which so clearly links the written sources to the archaeological record, and demonstrates the probable existence of these identities. This evidence is by no means definitive and does not explain exactly what being a Samnite or Campanian meant on a local level. But to deny the existence of the Samnites, and relegate them to the nameless local inhabitants of ambiguous singular communities, is to eliminate a people whom the Romans most certainly found a unified and determined entity. Having argued for the existence of the tribal names posited in ancient literature it remains to be argued to what extent and with what validity can we apply these labels to the archaeological evidence.

### **1.8. Critical use of the ancient sources**

Whitehouse *et al*, feel 'there is the uncritical acceptance of the writings of Greek and Roman authors and a corresponding inclination to interpret the archaeological record in traditional historical terms, in line with ancient authors' (1995: 102). Critics of the use of tribal names will no doubt claim this creates a culture-historical framework for the analysis of my material. It does not. I am neither attempting to define ethnic boundaries by 'tracking down peoples associated with and distinguished by particular artifacts' (Jones 1997: 16), or trying to force the archaeological data into a historical framework to explain events or processes. That ethnic identities are not always bounded or fixed is not the question, as we should be aware that material culture travels and is translated, negotiated and changes over time. It is the existence of these identities within certain regions and during specific times that I am arguing for, and the judicious application of these identities to articles of material culture when appropriate or probable. In the context of military equipment this is of immense importance. It has the possibility of informing us about cultural meanings on many different levels, ritual - functional, regional - societal, tactical - technical. By exploring the question of identity of this material, we establish a study that goes beyond the functional purpose of an object, the meaning of the iconography or its cultural import in a particular region to make it relevant in a wider context of historical inquiry.

Avoiding the historicity of Campanian, Lucanian and Samnite identities and their bearers, and then glossing over the whole mass, with vague and equally confusing modern terms, such as 'native' or 'indigene', only ignores the intricacy of this subject. It is an opinion and an approach, based on the premise that by using the ancient accounts we have somehow surrendered our analytical objectivity. Whitehouse in a very colourful way describes the naive acceptance of some scholars who quote ancient authors as authorities where 'the writers take on the guise of grand old Victorian gentlemen father-figures, whose wisdom, sobriety and balance have somehow an almost godlike equipoise' (1985: 98). Despite the misuse of ancient authors as infallible and impartial sources, it must be recognised that their relative proximity to the peoples and events they wrote about, offer us invaluable commentary on the historical reality of the past. Even if that historical reality, is distorted by the prejudices and scholarly limitations of the ancient authors it is still of value. Livy, who is our primary source for the Samnite wars, admits when writing about this period:

'It is not easy to choose between the facts or the authorities. The record has been falsified, I believe, by funeral eulogies and fictitious inscriptions on portrait busts, when families try to appropriate to themselves the tradition of exploits and titles of office by means of inventions calculated to deceive. This has undoubtedly led to confusion both in individual achievements and in public records of events. Nor is there extant any writer contemporary with those times to provide the firm basis of a reliable authority' (VIII.40).

There is still, as there should always be, a need to look at the ancient sources critically in an 'informed, cautious and rigorous' manner. But in no way should we tar these two radically different periods with the same brush - It is a poor assessment of a very valuable source of data, and something which many prehistorians seem indifferent to.

I wish to add to this point that there is also the selective use of data, where one is maximised and the other minimised, this bias is usually in accordance with one's expertise or interests. As Pallottino notes:

'We interpret the cultural import of this or that necropolis in Latium, Campania, Picenum, the Veneto or elsewhere along lines laid down by archaeological experts in the proto-history of the region in question, and in terms of the limited technical, typological and chronological questions arising from their particular interests and from the procedures with which they are most familiar. We must attempt to break down these conventional barriers between branches of study, or open more fluid communication between them.



Only then will we be able to reconstruct a historical reality of whose fundamental interconnections we have so far caught no more than a confused glimpse' (Pallottino 1991: 21).

As regards to my own research the disagreement between the approaches to the historical sources and the archaeology would seem to me to be a matter of emphasis. The term 'native', for example, is used as an objective description of the non-Greek peoples of southern Italy. Yet this term in itself goes beyond the lesser evil of 'romantic or colonial overtones' it conjures up, by creating an artificial dichotomy between the Greeks and the natives, and attempts to explain the archaeological record in the context of that polarity alone. This Greek - native paradigm engenders the image of Greek cultural enclaves surrounded by an amorphous mass of natives, differentiated only by their proximity, and hence their influence to Hellenic culture (Whitehouse and Wilkins 1995: 105-118). Jones offers an excellent summary of a similar approach to Roman Britain:

'In contrast to the investigation of spatial boundaries marking the supposed territories of discrete groups in the late pre-Roman Iron Age, the analysis of culture and identity following the Roman conquest is reconfigured in terms of a temporal boundary between the broad cultural categories of native and Roman. Close contact between Roman and native societies following the Roman conquest of Britain is assumed to have initiated a brief period of culture change, ultimately resulting in the synthesis of Romano-British culture and society - a process which has been called Romanization' (Jones 1997: 31).

Models of this nature attempt to explain cultural change among native populations as a matter of influence by Roman, or Greek civilisations. This precludes the possibility that a native group, or interaction between these groups, could have an impact on the archaeological record materially. Hence, there is no need to differentiate between 'natives'.

If there is to be a reconciliation of sources there must also be an understanding that where one approach to a type of evidence is justified it may not apply in other circumstances. The archaeology must be even more rigorously examined for correlations with the written record and vice versa, because we are so much closer to reconstructing an historical reality. In the case of my chosen study area during the period of the 5<sup>th</sup> to the 3<sup>rd</sup> centuries BC, I have tried to show that the terms Samnite, Lucanian and Campanian are relevant. It remains now to examine the question; what, if any,

connection is there between these identities and the types of military equipment that are found in southern Italy?

### **1.9. The attribution of identity to military equipment**

This next section examines the manner in which the ancient sources used military equipment and fighting methods as cultural markers from which they would differentiate and identify certain peoples, especially in times of conflict. This will follow the approaches used by Dench in *From Barbarians to New Men*, 1995, to examine ancient perceptions of identity, and Hall's *Ethnic Identity in Greek Antiquity*, 1997, in defining notions of otherness. I will also look at the literary tradition of Samnite armour, and analyse the content of these passages in the light of what has been discussed about military equipment and identity. The literature will then be compared for correlations and discrepancies with the representational and artefactual record. Finally, I will examine the warrior image in southern Italy as expressed through the iconography of the representational sources. I shall draw on concepts of self and group identity within 'The World of the Warrior', 1989, as expressed by Lissarrague, and the relationship between image and reality in Hannah's 'Athens-Sicily-Campania: Warriors and Painters', 1990.

In a preface to his account of the Peloponnesian War, Thucydides discusses earlier times in Greece and the surrounding islands.

'Most of the pirates were islanders, the Carians or Phoenicians who had settled most of the islands. The evidence for this is as follows: when the Athenians purified Delos during this war, they dug up the graves of those who had died on the island and found that more than half were Carian. They know this by the style of the weapons that were buried with them and by the burial customs, which are still in use' (Thucydides I.8).

It is evident from the remarks of Thucydides that the style of weaponry and manner of burial were believed to be cultural markers to indicate the presence of a specific people. A belief that was later followed by Childe's culture-historical approach to the archaeological evidence (Jones 1997: 16-17). Before we discard this approach as dated and fruitless, it is worthwhile examining to what extent the ancients believed particular types of military equipment or styles of fighting could be attributed to certain peoples, and with what validity should we credit these attributions.

There are numerous ancient references to military equipment and tactical systems, which are identified with a particular people. Polybius and others, refer to what the Romans 'called a Spanish sword', which was adopted during their campaigns in Spain, in the 2nd Punic War (Polybius VI.23, Livy XXXI.34). In the wake of Macedonian dominance in Hellenistic warfare, the Achaeans rearmed their troops with 'the Macedonian pike' and were trained to fight as 'the Macedonian phalanx' fought (Plutarch, *Phil.* IX.1-7). In time, these foreign weapons and tactical methods, could become recognised as symbolic of the peoples who had adopted them. We are told by Plutarch, who wrote three centuries after Polybius, that Mithridates when at war with Rome, armed his troops with 'swords forged in the Roman fashion' and drilled them to fight in 'Roman formation' (Plutarch, *Luc.* VII.4). Yet, it is clear from the archaeological evidence spanning the period from Polybius to Plutarch and beyond, the Romans were still using a derivative of the 'Spanish sword' (Bishop and Coulston 1993: 69-74). This illustrates the layering of identity that could be applied to the same objects over time and space.

But ancient authors are not the only ones to attribute a nationality to military equipment. The Corinthian, Chalcidian, Attic, Illyrian, Boeotian, Phrygian and Thracian are all modern attributions of identity to different types of helmet. Only the Corinthian helmet seems to have been an accurate term, as it is mentioned by Herodotus (IV.180) and first appears on representational sources from Corinth (Snodgrass 1967: 51). The use of ancient regional names to express the true origins of military equipment are often, 'merely guesses based on the distribution of examples or representations, and some are demonstrably wrong' (Snodgrass 1967: 52). It is in this context that the written sources, when available, are invaluable in corroborating the most authentic identity of military equipment.

A common theme in classical literature was the disdainful attitude held for those who fought with missile and javelins rather than hand-held weapons. In the *Iliad* the bow is referred to as the 'weak weapon of a coward, a good for nothing' (*Iliad* 11.384-390). Euripides, in the *Phoenician Women*, has an Argive comment on the armament of the Aetolians, who are also Greeks, stating: 'If his shield is like those of the other Argive leaders and makes him a Greek, his skill with the bow, by contrast marks him as a

barbarian' (I.139-140). Here, the dichotomy between the Greek shield and barbarian bow is used in a disparaging way to stress the semi-Hellenised state of the Aetolians. Lavish equipment could also be a means to differentiate, as the Romans are dazzled by the flashing armour of Mithridates' army, 'which was magnificently embellished with gold and silver' (Plutarch *Sull.*XVI.2). A characteristic which enabled ancient authors to moralise 'a rich enemy was the prize of the victor, however poor he might be' (Livy IX.40). The attribution of military equipment or tactics to a particular people, often manifests itself in ancient sources when the encounter is between distinctly different cultures. It is used not only to emphasise and differentiate identities but also to imply cultural stereotypes and in some instances to denigrate the prowess of enemies.

### **1.10. The literary tradition of Samnite armour**

'The Samnites also advanced their standards, and the army followed in its ornate armour, a splendid spectacle even for Roman eyes' (Livy X.40)

The Samnites were renowned for their warlike reputation and appearance by both the Greeks and Romans. Their 'ornate' armour is perhaps the most conspicuous, and yet enigmatic, item of equipment referred to. This portrait, however, is not as straightforward and objective as we would hope. As I will show, the image of the Samnite warrior was reinterpreted by later ancient writers and incorporated into the folklore of republican Rome's heroic age. My intention is to look at images described in the literature, and attempt to extricate the historical reality of Samnite armour from misconceptions, distortions and exaggerations that surround it. A useful starting point is Livy's description of the Samnite army on the eve of battle in 310:

'the Samnites had made their battle-line glitter with new splendour in their arms. There were two armies; the shields of one were inlaid with gold, the other of silver, and the shape of the shields was this: the upper part was quite broad where it protected the breast and shoulders and had a smooth rim, while the base was rather tapering, for easy handling. A corselet made of sponge covered the breast, and the left leg was protected by a greave. Helmets were plumed to give an impression of greater stature. The tunics of the gilded soldiers were multi-coloured, and of the silver-plated of dazzling white linen' (Livy IX.40).

Salmon in attempting to reconstruct what he believed was a more realistic picture of the Samnites, claimed Livy's account of their army could be 'dismissed at once as



fanciful' (Salmon 1967: 102). He reduced this depiction as a garbled mixture of contemporary gladiatorial equipment with elements of Polybius' account of the Roman army in the 2<sup>nd</sup> century. References to gold and silver equipment were Livy's attempt to bestow greater glory on the Roman victory. To a great degree Salmon's assessment is correct, although his motivation was to stress the bleak, harsh landscape of Samnium and its meagre resources (Salmon 1967: 14-23). It was hardly the place to be inhabited by warriors sporting ornate and costly armour adorned with silver and gold.

More recent scholars have done much to redress Salmon's wholesale dismissal of Livy. In an interpretation much more sympathetic to the ancient sources, Dench deconstructed these descriptions using methods of analysis that examine how ancient, and modern writers are conditioned to perceive and interpret things according to their own times and prejudices, a process she termed 'ways of seeing'. What Salmon found untrustworthy and fanciful, Dench believed to be interpretations derived from a combination of images based on contemporary gladiator dress, the Social War and the actual accoutrements of 4<sup>th</sup> century Samnite warriors (Dench 1995: 100). But as helpful and fresh as Dench's approach is in giving understanding and credit to the ancient literary sources, it presumes that warriors in Campanian and Lucanian representational sources were equipped in much the same way as Samnite warriors, as Salmon did before her (Salmon 1967: 102).

One tradition associated with the Samnites was their fantastic wealth. What is noteworthy about the affluence of the Samnites, unlike other peoples, is that their wealth was not associated with the richness of their lands, houses, money or even their flocks and crops, but with their arms and armour. Florus explains, 'the Roman people attacked the Samnites, a race which, if you would know its wealth, was clad, even to the point of ostentation, in gold and silver armour and motley coloured raiment' (I.XI.7). The long and ultimately victorious wars against the Samnites in southern Italy certainly brought the Romans incredible amounts of spoils. But to attribute a large part of this wealth to armour, made of, or inlaid with, gold and silver would perhaps be stretching things a bit too far. Of all the belts, helmets, greaves and cuirasses I have examined from Southern Italy, only a small number were inlaid with silver and none with gold. One belt from the British Museum was inlaid with a silver belt clasp, which is quite similar to one at the

Karlsruhe museum (Suano 1985: 19, GR1860.3-19.1). Another belt recently excavated at Pontecagnano and in the process of being cleaned had silver belt clasps. In tomb 37 at Eboli, a Samno-Attic helmet had small amounts of silver inlay around its edges (Cipriani and Longo 1996: 80-81).

Many pieces of armour, however, are beautifully crafted, both the ornate examples with Greek-style motifs, and the aesthetically pleasing simpler versions. This trait is plainly stated by Livy, who relates that, 'the spoils won from the Samnites were inspected and compared, for splendour and fine craftsmanship with those Papirius's father had won, which were well known from their frequent display in public places' (Livy X.46). He also states that heavy bronze money came from the spoils. Here we have the continued association of the Samnite's armour with wealth, but instead of gold and silver it is bronze. It was during this period that the *Aes Grave* currency bars were minted, supposedly from Samnite armour. Items illustrated on these bars, such as weapons and livestock, are frequently interpreted as spoils. The need to update and embellish this 'wealth' in Livy's time of the 1<sup>st</sup> century AD, to gold and silver is understandable when compared with the spoils Augustan Roman armies returned with in his own time, such as from Asia and Egypt.

Livy also uses the alleged opulence of the Samnite's equipment to eulogise the virtuous austerity of the ancient Romans, by stating 'a soldier should be rough to look on, not adorned with gold and silver but putting his trust in iron and courage' (IX.40.5). The creation of a morally upright heroic past was a common theme of Augustan writers, who wished to contrast this ideal with the supposed decadence of their own times. Thus, Roman victory over the Samnites is epitomised by Livy, both morally and militarily, by exaggerating and contrasting the distinctiveness of their armour. Even from this brief analysis we can see that ancient authors used descriptions of the Samnite warrior's equipment as a foil to contrast with their own constructed identities and virtues. The addition of gold and silver served only to embellish what was already foreign and different about the Samnites, and probably most of the south Italic peoples in general.

From the imagery of the written sources it is possible to discern some consistent features that seem to be based on reality. It can therefore be summarised that Samnite armour was distinctive, having an aesthetic value that could border on the elaborate.

Repeated references are made of bronze, well-made armour that was designed to protect the head, chest and legs, and a shield that was functionally advanced. More specifically, the body armour is often described as pectorals or breastplates.

### **1.11. South Italic Iconography: Image and Reality of the Warrior**

‘There are unfortunately no undisputed representations of Samnite warriors. Those Samnites who had migrated to the coast came into contact with the Greeks and their armour shows a strong Greek influence. There are hundreds of representations of these coastal Samnites; the difficulty is to determine which are Greek and which are Samnite elements’ (Connolly 1981: 107).

In southern Italy a plethora of representational evidence has survived in which the image of the warrior predominates. Most of this evidence, frescoes and vases, comes from burial contexts, which has a significant impact on what type of scenes are depicted. Two things should be kept in mind when trying to understand the meaning of ancient images, firstly that ‘we are cut off from the conditions that prevailed at its creation’ (Berard 1989: 23). Secondly, analogy, inference and comparison may be useful in helping our modern mindset to see, and in some way understand or categorise an image, but we may never fully grasp its entire significance. But of two things we may be quite sure of when studying the images of south Italic warriors, 1) they were decidedly warlike 2) they esteemed this characteristic enough to display this image in life, and honour it in death (Schneider-Herrmann 1996: 128-131).

It is a common tradition among many warrior peoples or societies to retain certain elements of costume, weaponry or even practices that symbolised the exclusiveness and military prowess of the group. Thus in modern contexts, the bagpipes of Scottish highland regiments, the *kukri* knives of the Ghurkas and the ceremonial dress of the Guards, are all drawn from past elements. We can even discern this practice to a limited extent among the ancients, such as the dress and sacred shields of the *Salii* or the Attic helmet and oval *scutum* of the Praetorian guards. By adopting these items of equipment as symbolic representations these warriors establish a physical link with the group's heroic past. Over time these symbols become established and recognised, not only by members of their society, but to those who might face them in battle. This tradition serves to indoctrinate the next generation of warriors to the ideals and moral principles of

the fraternity. An important element of the warrior tradition is honouring past episodes and practices that expound the heroic ideals valued by the group and when the opportunity arises, to emulate them.

In the early 4<sup>th</sup> century Dionysius, the tyrant of Syracuse, had in his employ mercenaries from throughout the Mediterranean. We are told,

‘he had gathered his mercenaries from many nations; for he was eager to have everyone of his soldiers armed with the weapons of his people, conceiving that by such armour they would, for this very reason, cause great consternation, and that in battle all of his soldiers would fight to best effect in armour to which they were accustomed’ (Diodorus XIV.41,3-42,2).

Figuring prominently among Dionysius's mercenaries were many Campanians and Samnites, ‘who enjoyed a high reputation as bold and capable fighters’ (Diodorus XIII.80). As mentioned earlier, armour and weaponry were associated with different nationalities, and their native fighting methods. Here, Dionysius hoped to use the warlike reputations of his mercenaries to his advantage, to cause fear amongst his enemies. This could only have been possible if the armour used was immediately recognisable as symbolic of the mercenary’s identities. But was this symbolism understood by the south Italic peoples and did they reflect this in their representational sources?

The iconography of many south Italic paintings draws inspiration from Greek examples, such as ritual scenes of departing, returning or arming warriors. But this is not merely a case of substituting a Greek hero for a Campanian or Lucanian one. Scenes depicting gladiatorial duels and warriors returning with bloody spoils are distinctly Italic, and have no parallel in Greek iconography. Yet, despite these regional variations they do follow the iconographical code derived from Attic vases, which emphasise the role of the individual warrior rather than the collective (Lissarrague 1989: 44-45). This role, especially in the context of tomb paintings, is idealised to show the warrior as a hero, behaving in the manner that society expected of him. It is evident from the numerous images of warriors that the elite wished to call attention to, and honour, their military capacity within their communities. The uniformity in dress and equipment of many of these warriors is quite striking, and seems to conform to what Hall describes as emblematic style, which ‘seeks to transmit a clear message to target populations about a conscious social identity’ (Hall 1997: 133). Emblematic style manifests itself during periods of crisis



or conflict when it is important to symbolise group identity through imagery and artifacts. Military equipment and dress would be one of the most conspicuous mediums from which to express group or cultural solidarity to outsiders.

Dench cites an example in which military equipment is used in a Paestan tomb painting of around 300 to illustrate a Lucanian identity:

‘the horseman is shown in full south Italian armour, in conflict in one scene with an Amazon, and in another scene with an individual in Greek armour, complete with a helmet of Phrygian type probably meant to represent a Macedonian helmet adopted by the Tarentines in the 4<sup>th</sup> century BC. These scenes are modeled closely on an iconographical type portraying Greeks against barbarians, the Amazon and the Greek being cast as barbarians. These tomb-paintings illustrate a profound understanding of the Greek-barbarian polarity that was a central motif of Greek self-definition from the mid-5<sup>th</sup> century BC, and that had a particular resonance for 4<sup>th</sup> century Tarentum’ (Dench 1997: 46).

It would appear that although the Campanians, Lucanians and Apulians had borrowed media of expression and canons of iconography from the Greeks, they were self-conscious enough about their own identity to assert this in representational sources through their military equipment.

The largest concentration of tomb paintings depicting warriors comes from Paestum, in what was once Lucania, but is now in the modern region of southern Campania (Pliny *N.H.* III.71; Strabo VII.1.3). Pontrandolfo and Rouveret’s study of the Paestan tomb paintings attributes them with dates that span from roughly 400 to 300, and encapsulates the period between the known events of the Lucanian capture of the city in 410 and the establishment of a Roman colony in 273 (Livy *Per XIV*; Velleius Paterculus I.14.7; Pontrandolfo and Rouveret 1992: 73). The Campanian evidence is based on several tomb paintings from Capua and Nola, which are contemporary with those in Paestum (Weege 1909: 99-162; Johannowsky 1971: 375-382; Benassai 2002). Another major source of representational evidence comes from Campanian, Lucanian and Apulian red-figure vases, which are attributed dates from 420 -300 (Trendall 1967; Trendall and Cambitoglou 1978; Schneider-Herrmann 1996). Most of the burials for which we have tomb and vase paintings come from *necropoli* situated near urban centres. In Campania and Lucania these are in coastal regions that were once controlled by Etruscans or Greeks.

Tomb paintings provide an excellent source of visual evidence, both because they can be dated stylistically and because they depict the equipment in full colour. The paintings also show equipment, which was made from materials such as leather, cloth and wood that does not normally survive in the archaeological record. These paintings must be used with caution however, as they are derived from elite burials and represent only a small proportion of the population. In Paestum for example, only 80 tombs are painted out of 1,000 burials excavated, which date from the 4<sup>th</sup> century (Cipriani and Longo 1996: 41). This shows that only those among the highest strata of society could expect such treatment when interred, but the number of warriors represented in these paintings is significant. In *Dipinte Di Paestum* 66 painted tombs are catalogued and illustrated, more than half of these depict scenes with warriors present (Pontrandolfo and Rouveret 1992). The different types of scenes in which warriors appear are rather limited and follow a structured format that is replicated from one burial to another. These scenes include warriors returning from battle, duels, lone cavalymen and very rarely, battles. Of these 37 tombs in which paintings of warriors appear, 29 depict duels, 18 returning warriors, 7 cavalymen, 2 battles and one mythological scene showing heroes armed as warriors fighting monsters. Over time the format of these images is altered. The latest paintings from the beginning of the 3<sup>rd</sup> century, in the Spinazzo necropolis, depict leave taking scenes in which a younger man departs, clasping the hands of an older bearded man. Other panels show armed retainers with spears and oblong shields, horses loaded with packs and even a pet dog (Cipriani, Pontrandolfo and Rouveret 1998: 68-72).

Artistic works are by their very nature stylised interpretations of the objects and people they represent. The amount of detail and accuracy one could expect from these images varies dramatically and is influenced by the ability of the artist, the medium and the purpose of the artwork. South Italic tomb paintings were created rapidly created on the walls of the burial chamber in a manner similar to frescoes. Despite following a structured iconographical format, artists show a willingness to slightly alter individual paintings. In similar duel scenes for example there is often variation in the number and location of wounds, or positioning of the warriors. In paintings of returning warriors, the type of spoils carried as a trophy varied between tunics, belts, shields and any combination of these three items (Burns 2003: 42-56). In southern Italy of the 4<sup>th</sup> century

most representations of warriors that have come down to us are associated with funeral rituals. Tomb paintings were made specifically for this purpose and the images depicted were seen by the living only at the funeral rite. They were a testimony to the communities' idealised image of what a warrior should be.

The red-figure vases present a slightly different image, even though they are often found in burial contexts they were not limited to this use alone. Most of these vessels are forms related to the storage, preparation and drinking of wine, and although this may be part of the funeral rite it is likely they were used on other occasions as well. One criticism of this is that the vases found in burial contexts are sometimes found in pristine condition and show little evidence of use, it is therefore reasoned they were made solely for this purpose. I would argue that most funeral goods appear to have been in an excellent state of repair when deposited in the tomb and this is not a reliable criterion for categorising them as purely ritual objects. There is also a wider selection of scenes depicted on red-figure vases. In some instances the scenes depicted in tomb paintings, such as the returning warrior, duels and cavalymen are found, but there are also images of warriors at rest with ladies, fighting in groups, equipping themselves and marching.

### **1.12. Military equipment in the archaeological record**

This section provides information and graphics on the question of how armour and weapons may come to enter the archaeological record. Central to understanding the archaeological evidence is the issue of context, and how this relates to cultural practices in which military equipment was disposed of. The term 'ancient warfare' often encourages the idea that we are dealing with a largely homogeneous subject, and there is an underlying expectation that the contexts in which military equipment is found will be broadly similar over a long period of time. The fact is the archaeological contexts where military equipment appears were inextricably linked to the nature of war and the conditions of military service in society. As these factors changed over time, so did many of the contexts into which equipment was deposited. One of the problems which hinders the proper analysis of ancient weapons and armour in the archaeological record is the way in which the context of the artefact can dominate or limit its interpretation. This is partly due to the misconceptions or presumptions about the nature of warfare, and the

conditions of military service during the period in question. There is also, I feel, a bias by those studying better-documented periods to avoid the contributions of material from earlier, less understood periods.

Bishop and Coulston's study of Roman military equipment, for example, focuses on the era of the long-service professional legions during the principate and empire. The equipment from this period is usually found in archaeological contexts, which were associated with military service in long-term garrisons, such as fortresses, workshops, barrack blocks and rubbish pits. The majority of equipment, however, did not enter the archaeological record as a result of everyday activity, as some would suppose. During the principate and empire, arms and armour were often repaired and/or recycled where the soldiers were stationed. It was also a condition of service that when on the march, soldiers carried most of their possessions with them. Bishop and Coulston note that equipment 'on Roman sites was usually deposited because of some strategic move, so if there were no great military operations in hand, no equipment would be deposited' (Bishop and Coulston 1993: 37). The nature of war during this period meant that large numbers of troops were sometimes moved from their garrisons for redeployment, or to participate in campaigns further afield. A consequence of these movements was the abandonment of military bases, which often resulted in the hurried deposition of equipment. Items which were left behind were usually surplus, or too badly damaged for immediate use, and were awaiting repair or reprocessing.

Bishop and Coulston note that, 'repeated annual campaigning would normally leave little trace by way of military equipment, and excavation of 'temporary' camps has often shown how these were almost bare of artefacts' (Bishop and Coulston 1993: 37). There were of course other contexts in which military equipment appeared during the principate and empire. But the abandonment of military bases shows how some types of deposition were specific to certain periods. The analyses of distribution patterns should be sensitive to the conditions that existed to create the contexts in which equipment is found. What must be emphasised is that the nature of war and the terms of military service in Italy of the fourth century BC were very different from that of the Roman Empire. Hence, we should not expect to find equipment in the same type of contexts, nor should we let the nature of these contexts prohibit our full understanding of these artefacts.



One of the reasons Bishop and Coulston felt it necessary to write a book devoted to Roman military equipment, was that this topic had 'traditionally been subordinated to narrow art-historical discussions, or marginalised as typology-fodder' (Bishop and Coulston 1993: 12). The study of Roman military equipment has since made much progress as a topic in its own right. Many new publications, and a periodical devoted to the subject (*Journal of Roman Military Equipment Studies*), regularly publish new research and discoveries on all aspects of the equipment and its use. Despite the advances in military equipment research of the late Roman republic and empire, there is still a tendency to treat earlier periods in a cursory and dismissive manner, especially when the contexts are not considered to be exclusively the domain of military archaeologists. Bishop and Coulston regard the middle of the 3<sup>rd</sup> century BC as a watershed in the study of Roman, and by extension Italic, military equipment, as 'only with the Punic wars do we begin to find artefacts not deposited in funerary contexts' (Bishop and Coulston 1993: 48). This unfortunately has left the study of arms and armour of pre-Roman Italy to be conducted in a piecemeal fashion by those whose avenues of inquiry usually regard military aspects as secondary. Subsequently, the military equipment of southern Italy is not seen as part of the continuum of development with later Roman equipment, and is therefore excluded from the comprehensive analysis it requires.

New approaches in examining south Italic arms and armour must go beyond the mere contexts in which they are found. They must seek to understand the wider circumstances and driving forces, which could lead to artefact deposition. Suano in her study of Sabellian-Samnite bronze belts states:

'Although Italian archaeology has been moving towards the study of socio-cultural organisation, archaeologists have not yet formulated adequate methods of analysing the social contexts in which the artefacts were produced, circulated and used. The Sabellian-Samnite belts clearly show that war must be considered a permanent form of economic activity and should be recognised as a significant factor in defining these categories of analyses' (Suano 1986: 37).

Suano's assessment of the centrality of war to any analyses of the social contexts of military artefacts in southern Italy is well founded. From what can be discerned of most south Italic peoples, both from the archaeology and what later literary sources say,

warfare was not only a significant factor, it was the focal point towards which the internal structures of society were geared (Oakley 1998: 18). To understand the contexts in which military equipment was manufactured, circulated and used, it is necessary to formulate an analytical model in which war plays a pivotal role in the life cycle of the artefact. The use of the term life-cycle refers to the existence of that piece of equipment from its creation, to the point at which it no longer remained in circulation, or came to be deposited in the archaeological record.

The life-cycle of military equipment in 4<sup>th</sup> century southern Italy can be outlined as follows (fig.3): the item was first manufactured and then distributed, either through purchase, gift or issue, to the warrior. Being an accoutrement of war there was the distinct possibility that this piece of armour or weapon could have found itself on the battlefield. Both literary sources and archaeological remains provide examples of what might happen to military equipment after battle, and these can be broken down into four categories; battlefield debris, recycled metal, trophies and deliberate destruction. Arms and armour that were either never used in warfare, or that returned home with the warrior after battle, could enter the archaeological record through the practice of warrior burials. Although most warrior burials are not the direct result of warfare, they do emphasise the importance of this activity in society. The life-cycle model provides a general overview of how the accoutrements of war were displayed, deposited, or disposed of, after they no longer had a military function.

### **1.13. The lifecycle of military equipment in Southern Italy**

The manufacture and circulation of military equipment is something we know very little about. It is critically important that distribution analyses take into account any information regarding aspects of production, however meagre. Archaeologically, I am unaware of any workshop, tools, partially finished pieces, or scrap that is related to the manufacture of arms from the fourth or third centuries. There are, however, some matrices, from which some of the decorative fittings applied to south Italic bronze belts and armour appear to have been made. The decorative fittings found on the bronze belt from the Marcellina panoply appear to be derived from a matrix in Berlin, which has been attributed to Etruria. Yu believed that “there is reason to suppose that the plaques

for Samnite belts decoration were stamped in the same workshops where the girdles were manufactured and most probably the other items of the standard South Italian panoply” (Yu 1994: 6).

The ancient sources say little on the subject of arms manufacture and most of this information is incidental to the events they describe. Livy, for example, claims that on the eve of the battle of Aquilonia in 293, ‘the Samnites had put the same sort of effort into their preparations, and had furnished their campaign with all the riches they could lavish on splendid arms’ (Livy X.38). Livy goes on to say that 16,000 of these Samnite warriors were ‘given splendid arms and crested helmets’, after taking the oath of the linen legion. If Livy’s account is accurate, it implies that the Samnites could on occasion use collective funds to purchase arms, or the materials to make them, and distribute these to their soldiers. But this episode, like so many that relate to the arming and equipping of troops, describes the unusual in this case the last ditch attempts of the Samnites to stem the advance of the Roman conquest.

A more enlightening passage on the production of arms and armour comes from Diodorus; it describes how the tyrant Dionysius had,

‘gathered skilled workmen from Italy, Greece and Carthaginian territories . . . for he was eager to have everyone of his soldiers armed with the weapons of his people . . . every space, such as the porticoes, back rooms of the temples as well as the gymnasia and the colonnades of the market place, were crowded with workers . . . work was conducted even in private homes’ (Diod. Sic.14.41, 3-5).

This passage again narrates the atypical situation, in which large numbers of foreign troops, many of them Campanians and Samnites, were equipped by a Greek tyrant, who had the resources to manufacture arms on a lavish scale. But it is how Dionysius goes about this task that is most informative about the usual modes of manufacture. First, is that he sends for skilled workmen from ‘Italy, Greece and Carthaginian territories’ and provides them with models of the equipment to be produced. This indicates that there were types of armour which were associated with the peoples from these geographical locations, and that the workmen who produced this equipment came from those same areas. By extension this lends itself to the idea that there was a regional tradition of craftsmanship in weapons and armour.

Second, the workmen use 'every space' to produce arms, indicating the mobility, small scale and versatility of this process. It suggests that no special workshops or heavy equipment were required, and that even small communities had the potential to manufacture arms, provided the means and know-how were available. Finally, this implies that there were no large stocks of military equipment available in these areas to be purchased, and that it was much easier to gather the craftsmen to a central location and organise their efforts, than to commission them individually. This indicates that the usual scale of manufacture was at a local level, geared for local needs and tastes, and that a large scale arms-trade probably did not exist. Production of arms at this level seems much more plausible when we consider the relative lack of archaeological evidence.

The production of large amounts of weapons and armour seems to have been an episodic event, in preparation for some special campaign, or in times of desperation. During the second Punic war, for example, the Etruscan town of Arretium agreed to supply Scipio's army on the eve of its departure to Africa with '3,000 shields, 3,000 helmets, and a total of 50,000 pikes, javelins and spears, an equal number each together' (Livy XXVIII.45). For Dionysius' campaign against the Carthaginians in Sicily '140,000 shields and a like number of daggers and helmets; in addition to [14,000] corselets were made ready' (Diod. Sic. XIV.43, 2-4). Perhaps one of the most impressive accounts of arms production comes from the desperate plight of Carthage in the final Punic War. After having surrendered 200,000 panoplies and numerous artillery pieces to the Romans, the Carthaginians resolved to fight rather than be forced to abandon their city. This resulted in the frenzied production of 100 shields, 300 swords, 1000 artillery missiles, and 500 javelins a day (Appian VIII.93).

#### **1.14. Battlefield Debris**

Bishop and Coulston have noted the misguided belief held by many modern scholars, that ancient battlefields are likely places to find 'large quantities of weapons and armour' (Bishop and Coulston 1993: 34). This belief, however, fails to look beyond the artefacts as functional implements. It assumes that after the culmination of battle, damaged and discarded equipment had little use or meaning, and would be left where it had fallen. The most common artefacts recovered from battlefield sites are the various



types of projectiles used, such as arrowheads, sling bullets, and sometimes the occasional spear or javelin point as well. This is especially so with sieges, where from my own experience in Pompeii we have recovered over 275 lead slingshot and 21 stone ballista balls from a single house, dated to the Sullan siege of the city in 89 BC (2000-2004 field seasons of Anglo-American Project in Pompeii). Despite the large number of missiles, no armour or personal weaponry has yet been found on this site.

Very little has been done to study the battlefields of southern Italy. The great difficulty with this arises from the fact that ancient battlefields are often nearly impossible to locate. The literary sources, which describe these conflicts, rarely provide accurate geographical details, and sometimes show a complete disregard or lack of understanding of the terrain. The location of major battles, such as Aquilonia (293), Sentinum (295), and the Caudine Forks (321) are still disputed by researchers (see 'Where was Aquilonia?' in Oakley 1995, 149-151, and Sommella, 1968 for Sentinium and the Caudine Forks). In the summer of 2002, I travelled with Peter Connolly to the Forche Caudine and drove around the surrounding towns of Arpaia and Forchia looking for some indication of where this battle might have taken place. But even after viewing the pass from a high vantage point there was little that could be associated with the description given in Livy's account (IX.2-4). Perhaps a more fruitful approach would be to conduct field surveys rather than looking for specific sites. An intriguing passage from Livy mentions that during the fighting between the Roman and Samnites in 297-296, 'there were 45 sites in Samnium where Decius had set up camps, and the other consul had encamped in 86 places. Not only traces of their earthworks and ditches were left, but much more prominent records of destruction than these in the devastation of the surrounding countryside' (Livy X.15).

When battlefields are located often the only indications that there was a battle in the area are mass graves, or the remains of funeral pyres. Pritchett, in discussing the burial of Greek war dead, cites 11 excavation reports of mass graves on or near ancient battlefields (1985: 125-45). A group of thirteen skeletons was found near the Kerameikos gate in Athens, and date to a failed Spartan assault in 403, which is described by Xenophon (*Hell.* 2.4.28-33). An iron spear point was found still lodged in the ribs of one Spartan, and another had been shot in the right leg with two bronze tipped arrows

(Pritchett 1985: 133-4). Aside from these weapons no other military equipment was found. In 1879, the tomb of the Theban sacred band, which was wiped out at the battle of Chaironeia in 338, was excavated revealing the remains of 254 individuals. The bodies were laid out in seven rows and displayed visible evidence of battle wounds. Artefacts found with the bodies included a strigil for each warrior and some weapons, but the amount and type are not indicated (Pritchett 1985: 137-38). The manner in which the Theban sacred band was laid out shows some degree of consideration; more often, however, slain enemies were dealt with as expeditiously as possible. Pausanias, who visited the ancient battlefield of Marathon, states that the Athenians carried the bodies of the defeated Persians 'to a trench and flung them in pell-mell' (I.32.5). To my knowledge there have been no mass graves or funeral pyres uncovered in southern Italy which date from the 5<sup>th</sup> to the 3<sup>rd</sup> centuries. At present the location and study of battlefields in southern Italy remains largely an untouched area of academic inquiry, but is one which has the potential to open up a whole new source of data and information on military equipment and warfare.

### **1.15. The recycling, re-use and deliberate destruction of military equipment**

It is clear from literature and archaeology that it was common practice in antiquity for armies to strip the dead, and although there are many heroic connotations associated with this act there were more practical reasons as well. Worked metal was a valuable commodity in the ancient world and even badly damaged equipment was salvaged for repair or to be melted down and recycled. Pausanias notes that after the battle of Krimisos, 343, the Syracusans spent two complete days stripping the dead, and collected 1,000 breastplates and nearly 10,000 shields (9.16.5). Hannibal's forces are reputed to have reequipped their forces with the most select items of Roman and Italian equipment after Cannae in 216 (Polybius XVIII.28).

The recycling of metal armour, usually bronze, is sometimes mentioned in ancient sources. It has been suggested that the bronze used to make the *Aes Grave* money was obtained from captured Samnite armour. Items illustrated on these bars, such as swords, shields and livestock, have been interpreted as spoils (Sekunda 1995: 46). Livy's statement that 'heavy bronze' money came from Samnite spoils seems to allude to these

images (X.46). In a slightly different vein, Pliny states that in 293, Spurius Carvilius made a giant image of Jupiter on the capitol after defeating the Samnites, and that the bronze for this statue 'was obtained from their breastplates, greaves and helmets' (N.H. XXXIV.43). This seems to echo the manner in which the Rhodians obtained the material used to construct the Colossus.

It was sometimes the case that captured arms and armour were destroyed by burning, either in fulfillment of a vow to the gods, or simply for the destruction of enemy equipment. We are told that the consul Fabius, after defeating the Samnites, 'piled up the spoils of the enemy and burned them as a sacrifice to Jupiter the Victor' (Livy X.29). In another instance, a Roman officer used this practice to spite his commander, 'he piled up the enemy's arms in a great heap, set fire to them and burnt them all. This was either to carry out a vow made to one of the gods, or (if we like to believe Fabius) to prevent the dictator's taking credit for his own glory, and having the arms inscribed with his name and carried in his triumph' (VIII.30). An Apulian krater from Canosa, dating to 340-320, now in the Naples museum, depicts the funeral of Patroclus from the *Iliad*. In this vase painting a warrior's panoply of a round hoplite shield, greaves, Apulo-Corinthian helmet and two cuirasses are piled on top of the heroes' funeral pyre (De Caro and Borriello 1996: 152-154). This may have been another way in which arms and armour were deliberately destroyed, although in this instance the equipment seems to have been that of the fallen warrior.

#### **1.16. Trophies: Sanctuaries, public places and domestic contexts**

Arms and armour are frequently described as being used to adorn public places, most often in the agora or forum. Livy states in an episode from the Samnite wars, that Papirius 'embellished the temple [of Quirinus] with enemy spoils. These were captured in such quantities that they provided ornaments for the forum as well as the temple, and were also shared out among the allies and neighbouring colonies for decoration of their temples and public places' (Livy X.46). An example from the archaeological record that illustrates this specific practice was found in Athens, where a Spartan bronze shield was excavated in the agora from the victory at Pylos of 421. Pausanias cites it as belonging to a group of shields from that battle, which were still on display in the second century AD!

An inscription on the shield reads 'The Athenians from the Lacedaemonians, from Pylos' (Pausanias I.15.4; Snodgrass 1967: 105). Often public buildings and temples are decorated with reliefs of captured arms and armour, and are a representational motif inspired from earlier actual examples. It seems clear, however, that temples and sanctuaries were adorned with trophies before they were distributed among secular buildings. Livy states that the Romans after defeating the Samnites at Aquilonia in 293 'brought back such spoils to be prized adornment even of public places' (X.39).

At the Samnite sanctuary of Pietrabbondante, helmets, belts, weaponry and 33 cheek-pieces were found. More than half of the cheek-pieces have square nail holes, clearly indicating that they had been secured as part of a trophy, and one example shows what appears to be damage from an edged weapon. Livy claims that the Romans recovered all the standards and arms taken by the Samnites at the Caudine forks in Luceria (IX.15). This episode is interesting, as these captured spoils had probably been on display in temples and public places. From Livy's account, it is clear that the recovery of lost arms and armour was an important act in expiating the humiliation of defeat. This might explain the paucity of arms found in some of these sanctuaries, which were in the territory of Rome's Italic enemies. Helmets nailed to walls or posts, could have been wrenched off while the cheek-pieces remained in situ. There is, however, no proof of this, but it may well account for the unusual concentration of certain parts of equipment, such as the cheek-pieces at Pietrabbondante.

We may be able to recover items of equipment from temples, sanctuaries and public places, but unless they are inscribed and can be associated with a known event they are difficult to date with any degree of accuracy. The practice of displaying captured arms and armour at sanctuaries and then subsequently discarding them when the area became untidy or cramped resulted in their being used as fill in wells or to help shore up embankments. Arms and armour dedicated as trophies could be displayed for as long as several centuries. Livy relates that in his home town of Padua there were many people still living in the first century, who had witnessed the spoils from the defeat of the Spartan king Cleonymus in the 4<sup>th</sup> century, that were nailed to the walls of the old temple of Juno (Livy X.2). Consequently, pieces of equipment found in sanctuaries could have been displayed for centuries before they were deposited into the archaeological record.



The resulting deposition was a jumbled mix of arms and armour from different periods and regions (Snodgrass 1967: 49). The difficulties in dating such equipment is readily apparent, although relative dates can be achieved by comparison with artistic representations or by stratigraphy if the armour is found in wells or some similar sealed deposit, but this often tells little more than the date at deposition.

As Pritchett notes 'Items of captured armour were transported long distances to be set up in the shrines of the victorious state' (Pritchett 1985: 287). One of the best known examples are the Corinthian and Negau type helmets found at Olympia, which had been dedicated by the Syracusans, for their victory over the Etruscans at Cumae in 474. Back in Italy, however, the amount of arms recovered from temples and sanctuaries is much less than the vast quantities recovered from long established major sanctuaries like Olympia, which received dedications from all over the Greek world. The equipment from sanctuaries probably represents the arms and armour taken from elite enemy warriors, as these trophies were often the finest spoils which were selected for dedication to the god.

Polybius writes that the killing and stripping of an enemy by the Romans was a practice that was rewarded by the consuls, and that 'it is the custom to hang up the trophies they have won in the most conspicuous places in their houses, and to regard them as proofs and visible symbols of their valour' (VI.39). This was clearly a pan-Italic custom, as warriors returning with trophies are frequently illustrated in south Italian tomb and vase painting. Arms and armour, however, are rarely recovered from domestic contexts, and it would be difficult to determine with any degree of certainty if they were trophies or possessions.

### **1.17. Warrior burials**

By far, the most profitable context for military equipment in 5<sup>th</sup> to 3<sup>rd</sup> century southern Italy are warrior burials. Throughout most of Europe, warrior burials span the period from the late Bronze Age until well into the Iron Age in some regions. Perhaps the most prolific practitioners of this custom within Italy, both for the duration and richness of their tombs, were the Oscan-speaking regions of the south. These burials are representative of a funerary rite in which social differentiation was accentuated through

the display of grave goods associated with the life style and ideology of the warrior. Four categories of funerary goods are usually associated with warrior burials and represent activities which were important to this life style. These goods included weapons and armour for war and hunting, horse riding equipment, vessels for the storage, preparation and consumption of alcohol and to a lesser extent items of personal adornment or toiletries (Treherne 1995: 106-107). It is rare however, to find the whole array of associated grave goods, and in south Italic contexts it is often simply a javelin and spearhead, with a bronze belt and perhaps a cup that are found.

Warrior burials provide almost the only possibility of recovering near complete panoplies within a datable context. Snodgrass notes that the abandonment of warrior burials in Greece around 700 meant, 'that the uniquely valuable evidence of the grave-group, which as a rule can be dated accurately and gives a homogeneous picture of the equipment of a single warrior, is henceforward lost to us' (Snodgrass 1999: 48). In southern Italy warriors continued to be interred with their armour and weapons, all the way up to the 3<sup>rd</sup> century in some instances. The disappearance of this custom coincides with the advent of Roman hegemony in the region. In contrast, contemporary evidence for military equipment among the Romans and other central Italic peoples who did not bury their dead with arms and armour is almost non-existent.

In their discussion of the grave goods found in Paestan tombs Pontrandolfo and Rouveret make the comparison with those found in Capua and other Campanian communities:

'The only evidence we have of these people is their necropolis . . . the most ancient depositions (440/420 BC) are characterised by a burial ritual and a material culture presenting many similarities with the late 5<sup>th</sup> century BC necropolises of Samnitised Campania. . . These similarities obviously do not allow speculation of any kind. One can only acknowledge the existence, within two distinct Greek-type urban realities, of unrelated groups with a culturally similar behavior . . . A high number of male tombs, identified by the javelin, tend to cluster around lance or javelin-bearers wearing the 'Samnite' sword-belt or the triple-disc bivalve cuirass' (Pontrandolfo and Rouveret 1998: 37).

It is difficult to define the typical warrior burial in southern Italy, as there were significant variations not only between regions, but also between individual communities within the same region. In Lucania, where funerary evidence is more plentiful, we can

see how the burial equipment of warriors can differ between communities living in relatively close proximity. In Eboli, twenty kilometers from Paestum, we find similar warrior burials of complete panoplies of helmet, cuirass, belt, greaves and weaponry (Cipriani and Longo 1996: 80-81; Pontrandolfo and Rouveret 1992: 439-444). Only four kilometres further north is the necropolis of Pontecagnano, where over 8,000 tombs from the 8<sup>th</sup> to 3<sup>rd</sup> centuries have been excavated. In this community warrior burials are usually distinguished by finds of weaponry and bronze belts. Yet despite the profusion of belts and spearheads no helmets or cuirasses have been found. It is unlikely that the warriors of Pontecagnano disdained the use helmets and armour, but rather, this was not part of the funerary equipment this community included in a warrior's burial.

Burial practices change over time along with the type and quantity of grave goods. At Paestum, Capua, Nola and a number of other sites the body was interred in tombs made from tufa blocks or slabs, which were sometimes decorated with wall paintings. The equipment found in these tombs is often in relatively good condition, having been protected from corrosive effects or weight of the soil, water and plough damage. These types of burial, however, represent only a small minority of the total found. On occasion tombs were reused. Typically, the earlier burial and grave goods were moved to one side and the new occupant given precedence. This has significant implications for the interpretation of military equipment found in these reused burials. In tomb 669 at Lavello for example, a warrior was buried at the beginning of the 4<sup>th</sup> century with an Apulo-Corinthian helmet, round hoplite shield and bronze leg guards. Towards the end of the 4<sup>th</sup> or early 3<sup>rd</sup> century the tomb was reopened, the earlier burial and its goods were moved to one side and a new warrior was interred. This new burial was equipped with a Montefortino helmet, bronze muscle cuirass, greaves, belt and 18 spears and javelins (Bottini and Fresa 1991: 52-61). The equipment of these two separate burials within the same tomb has sometimes been examined as a complete assemblage, creating false relationships.

It would be misleading to interpret the south Italic warrior's panoply based strictly upon those found as grave goods. Only rarely, is anything resembling a complete panoply found within these burials. While some types of equipment, like helmets, belts and javelins are relatively common in burials, others such as shields and swords, are



seldom found, yet it is clear from representational and literary sources that they existed and were used. In most instances the only items found which indicate the warrior status of the burial are spear or javelin heads and the bronze belt. It seems that select items of equipment were sufficient to represent and honour the warrior status of the deceased.

One of the drawbacks of analysing military equipment recovered mainly from warrior burials is that it is often representative of the elite in the community, and may not accurately represent the arms of the typical rank and file warrior. We should not, however, take this differentiation too far. The equipment of the elite, however superior or ornate, would not have been entirely divorced from that used by the common soldier and the methods of warfare being practiced. An example of this is seen in the equipment from the alleged tomb of Philip II, at Vergina in Macedon, which included a complete panoply of armour, as well as weaponry typical of Macedonian cavalry and infantry (Snodgrass 1999: 115,142; Connolly 2000: 103-112). The armour in this tomb was of a standard pattern depicted on warriors of fourth century Macedon, but unusually it was made of iron with gold fittings. This seems to suggest that the main differences in the accoutrements of the elite were in the material used, the quality of manufacture, and the completeness of the panoply, rather than the actual types of equipment.

Despite their drawbacks and the ritual nature of funerary contexts they are an extremely valuable source of evidence. Seldom do we find dateable depositions in other periods which include such a large amount and wide variety of contemporary equipment in as good a state of preservation. The display of arms and armour in burials and the iconographic images that glorified their use, show that south Italic elites viewed this as an important part of their identity, and they sought to honour their role as warriors within their communities. In most cases weapons and armour are displayed prominently and suggests that the people who prepared the burial wanted to emphasise the inseparability of the warrior and his equipment. This ideology honours the individual warrior, and is fundamental in establishing an ethos, which indoctrinates other young men of the community into a specific code of behaviour. The contexts in which military equipment are found offer a glimpse of the ideals and expectations prevalent in south Italic societies, and reiterate the centrality of war to both of these.





### **1.18. The basic principles of weaponry and armour**

It may seem that I am stating the obvious in many cases, but I feel it is important to lay out in plain language exactly what the accoutrements of war were intended to do, at their most basic and functional level. It is often the case that weapons, armour and representations of their use, are examined and interpreted without any clear understanding of their primary purpose or how they functioned as part of a larger tactical system. They are seen as objects of art or ritual, symbols of status, gender or group identity, indicators of interaction with, or influence from, this culture or that, and many other interpreted meanings, all of which are totally valid and important. But this emphasis of concentrating on the secondary or interpreted meanings has led to many misconceptions about ancient warfare. The analysis of weapons and armour in many studies has become increasingly detached from the reality of their primary purpose. To avoid this shortcoming I intend to look first at what we do know about weapons and armour, and then, what we may hypothesise about them.

First, I will discuss weaponry, the three main categories of arms, their strengths and weaknesses, and the ways in which they inflict damage. Second, I will discuss armour, the main types of defensive protection and their strengths and weaknesses. Finally, I will examine the relationship between weaponry and armour and the corresponding influence this has on fighting methods and the development of military or tactical systems. Throughout, the term fighting method signifies the manner in which the individual warrior engages in combat, and in a broader sense is therefore armed. Military or tactical systems pertain to the larger formation, which exploits that particular fighting method. For example, a Greek hoplite armed with a thrusting spear and round shield employs a certain type of fighting method, and the phalanx formation is the tactical system, which exploits this. It is a presumption of my research that it is possible to understand the fighting methods of the peoples of southern Italy by the arms and armour that were used, especially when a developmental sequence can be shown.

#### **Weaponry:**

Weapons can be broken down into three different categories, shock weapons, thrown weapons and missile weapons. Shock weapons, such as swords, axes, maces and

thrusting spears, are often designed especially for use in warfare. They are hand held and must be used at close quarters to inflict damage. Thrown weapons are those which are cast by hand at a distance and include javelins, spears and stones. Missile weapons are those which are shot by a device which increases the velocity and range of the projectile greater than that possible from hand alone, such as bows and slings (Keeley 1996: 50-52). Each of these categories of weapons has their own advantages and disadvantages. Shock weapons are extremely effective in that they allow the user to strike his target up close, and as directly and frequently as he is physically capable. Their disadvantage is that striking with a shock weapon, requires a great deal of energy, not to mention it is psychologically difficult to kill a man up close in hand to hand combat. There is also the factor that in closing with the enemy, one is at much greater risk of being injured oneself (Keeley 1996: 49). Thrown weapons obviate the danger of coming to close quarters by allowing the warrior to disable or kill at a distance. The disadvantages, however, are that with the greater distance to a target, there is a corresponding reduction in the accuracy to hit, and the velocity to penetrate and kill. The warrior is also limited to the amount of thrown weapons he can carry, and hence inflict damage (Otterbein 1989: 44-48). In the area of my study region, during the 5<sup>th</sup> to 3<sup>rd</sup> centuries BC, only shock and thrown weapons were commonly used in warfare. From the archaeological, representational and literary evidence, the bow and sling appear to have had limited use in military applications.

Weapons enable the warrior to inflict damage on the human body in three main ways: concussive/crushing blows, lacerations and puncture wounds. Of these three, puncture wounds are by far the most efficient way to kill someone. It requires a penetration of only .75 inches to inflict a lethal wound to a vital area of the human body, with a modest expenditure of energy. It is also far more difficult to stop the flow of blood from a penetrating wound than a laceration. Even today these points are stressed, as modern soldiers are trained in bayonet drills to wound or disarm an enemy by slashing manoeuvres, or to incapacitate them with a butt stroke. It is then they are told, 'to kill without mercy' by thrusting. The analogy between modern techniques of killing with hand weapons, and those used in ancient warfare, is relevant as far as human physiology remains as vulnerable to the effects of these wounds as they were in ancient times. It is

also evident, from representational and literary evidence, that the ancients were well aware of the capabilities and limitations of their arms and armour.

Compared to stabbing weapons, concussive blows and lacerations require far greater effort to kill. But this does not mean that weapons of this nature were ineffective. Maces and other heavy blunt weapons did not have to penetrate to injure the human body. The concussive impact of these weapons enabled them to crush helmets and armour to break bones and cause potentially lethal internal injuries (Vegetius I.16). Both maces and axes have been found in tombs from Paestum, Alfedena and Capua, and they also appear on Campanian vases, but have received little attention. Slashing cuts could carry tremendous impact, especially if the velocity of the blow was combined with the momentum of a horse. Curved *kukri*-like weapons, similar to the Iberian *falcata*, were popular throughout southern Italy, as exhibited by archaeological finds and representational sources. Wounds caused by slashing blows could be extremely devastating. Xenophon recommends this type of weapon as more efficacious than the straight edged sword commonly used in Greece (Xenophon *On Horsemanship* X.12). Against unprotected flesh, slashing blows were capable of inflicting large wounds because more of the weapon's edge could impact with its full force. Livy's much quoted passage detailing the wounds of Macedonian casualties from a cavalry skirmish with the Romans describes the effects of the straight edged 'Spanish sword'; 'arms cut off with the shoulder attached, or heads severed from bodies, with necks completely cut through, internal organs exposed and other horrible wounds' (Livy XXXI.34). Against armour, however, distributing the force of the blow over wider area would lessen its potential to penetrate and inflict damage.

### **Armour:**

In this study armour is defined as shields, helmets, limb and body armour. The primary purpose of armour is to protect the human body from the full effects of weaponry. This does not mean it was expected to make one impervious to weapons, but rather to give the warrior an acceptable amount of protection, that would allow him to manoeuvre and inflict casualties on the enemy. The degree to which a warrior was armoured was largely dependent on the types of weaponry he expected to encounter on

the battlefield, and what resources were available to him. Ancient methods of warfare were predicated by the relationship between the offensive and defensive capabilities of the warrior. Rarely would the warrior be dependent upon a single capability, most frequently we find a primary and secondary methods of offence and defence.

The shield, for example, was always the warrior's primary means of defence, it was intended to intercept incoming missiles and blows before they could reach and injure the body. The design of the shield was important, it could be neither too heavy to carry for prolonged periods, or too bulky to hinder the effective use of weapons, nor too flimsy to stop an enemy weapon. Xenophon states that in a battle between the Persians and Egyptians, 'their shields cover their bodies much more effectively than corselets or targets, and as they rest against the shoulder they are a help in shoving' (Xenophon *Cyropaedia* VII.1.30-33). Polybius, contrasted the effectiveness of the Roman's shield to the Gallic shields during the Telamon campaign of 225. 'The shield used by the Gauls does not cover the whole body, and so the tall stature of these naked troops made the missiles all the more likely to find their mark' whereas the Roman shields, because of the larger size and construction 'were far better designed for defence' (Polybius II.30).

Body armour was usually a secondary form of protection, intended to supplement the shield as part of a defensive system. With this in mind, armour did not have to be as all encompassing or as impenetrable as some would believe. Like the shield, lightness and durability were important considerations in the selection of materials and design for armour. Warriors, who were extremely well protected, at the expense of manoeuvrability, would have reduced their killing potential and combat effectiveness. Likewise, warriors without adequate protection will be extremely vulnerable to enemy weaponry, which also limits their efficiency. These considerations are commented on by Sallust, who states that during the Jugurthine war, 'a cohort of Paelignians was equipped with light armour, which allowed them to march at a good pace and yet protected them as well as heavier armour would have done against the light missiles used by the enemy' (Sallust *Jug.* 105.2). It is the balance, which maximises the killing potential of the weaponry, while optimising the protective capacity of armour that was a constant consideration in ancient warfare. One that led to the continual development in the evolution of weaponry and armour, and the tactical methods used to employ them.



It could be argued that ancient warfare was not as methodical and dynamic a process as I have stated. But warfare was a far more integral part of society in ancient times than it is now. In modern western society the military is almost completely removed from daily life, many have lived their entire lives without ever having worn a uniform or fired a rifle. But no such segregation existed in ancient Greece and Italy, where training in the use of arms was a requisite part of being a citizen. In this environment battle becomes the ultimate embodiment and test of the soldier's culture. Economic and technological capabilities appear in the quantity and quality of equipment. Social and political structures are reflected in the organisation of the army and its hierarchy of command, while geography and topography, together with the above-mentioned factors, influence the tactical deployment and fighting methods practised. An ancient society whose citizens were not adept in military skills would soon have found themselves at the mercy of their more capable neighbours.

## **Chapter II: The Triple-disc cuirass**

### **2.1. Description and characteristics of the triple-disc cuirass**

The triple-disc cuirass is often referred to as the 'Samnite cuirass' by modern scholars, because of its appearance in areas of southern Italy which were either occupied by the Samnites or peoples who were believed to be related to them (Salmon 1967: 109; Schneider-Herrmann 1996: xxi). It is certainly one of the most distinctive items from the south Italic warrior's panoply, along with the broad bronze belt and short tunic. There is however, no evidence that this cuirass was viewed as being exclusively representative of the Samnites. Ancient literary sources certainly refer to Samnites being equipped with distinctive armour that was bronze and often elaborately made, but these descriptions are vague and difficult to associate with a specific type of equipment (Livy IX.40). I have therefore opted for the descriptive term triple-disc cuirass; derived from the three embossed discs, two upper and a single lower one, which form the triangular shape of the breast and back-plates. The complete cuirass is basically a harness, consisting of a breast- and back-plate, which are suspended over the torso by two shoulder- and two side-plates (fig.4). The cuirass would have been slipped over the head, like a life-vest or poncho, and fastened at the side by hook and ring attachments. These plates were hammered out of a single piece of bronze and Connolly suggests that the discs are abstract representations of the pectoral and abdominal muscles, although the same pattern is also used for the back-plate (Connolly 1986: 118).

The dimensions of the triple-disc breast and back-plates range in size from around 27-32.5cm in height to 26-28cm at its widest. The shoulder-plates are usually two hinged plates that are 8-12cm in length and 3.5-7cm in width. These are secured to both the breast- and back-plates by interlocking ring attachments or hinges. The side-plates are made from a single plate and are 16-24cm in length and 5.7-8cm in width. These are secured by a ring attachment to only one end of the cuirass, which in most cases is the back-plate. Hook clasps are used to secure the other end of the side-plate to the breastplate. These hook clasps are often similar, or identical, to those clasps found on the south Italic broad bronze belts. The difference with the clasp used on the side-plate of the cuirass is that the hook portion is turned outwards and away from the body. A more detailed discussion of these hooks and their relation to those found on belts is discussed

in chapter 5. Extra rings were sometimes attached to the breastplate so that the width of the cuirass could be adjusted. Breastplate (T12) at the Getty Museum has four extra ring links attached together, while the cuirass found at Carthage (T14) and a very similar example once on the Swiss market (T17) have three additional rings attached (figs.9, 10).

Many of these cuirasses have tiny perforations along the outer edges of the breast and back-plates. The perforations were where a lining was attached to the armour. This lining would have been stitched to a backing which probably had some form of padding beneath it to increase the protective value of the armour and provide more comfort to the wearer. Many triple-disc cuirasses have discolouration along the edges of the breast and back-plates where the lining had once been. So far, however, no backings or linings have survived on any of these cuirasses. Similar types of linings and backings can be found on 18<sup>th</sup> and 19<sup>th</sup> century cavalry breastplates (Many thanks to Thom Richardson of the Royal Armouries in Leeds for allowing me to examine this equipment). These 'modern' cuirasses had leather linings, which were sewn onto a padded cloth backing. The leather lining was attached first to the outward facing side of the breast-plate, either by sewing or rivets. It was then turned over on itself, covering the stitching or rivets and sewn to the backing on the inside of the breast-plate. The result presented a neatly faced lining along the edge of the cuirass that was both decorative and protective. A number of triple-disc cuirasses have been found with rivets or butterfly pins still in the holes that run along the edge of the breast and back-plates. The linings and backing for armour are functional features, which are necessary if one expects to use this equipment to protect the body. The padding and covered edges would have helped cushion the body and prevent chaffing while conducting rigorous activities. Those breast and back-plates without perforations may have been worn with some sort of padded garment, or perhaps had a backing glued in place.

## **2.2. The Development of the triple-disc cuirass**

Pectoral type armours are reputed to have arrived in Italy via the Middle East during the 8th-7th centuries. This assumption is based on the comparison of pectorals from archaeological sources in Italy to representational examples depicted on warriors in Assyrian reliefs, dated 750-630. Schneider-Herrmann and Stary believe there is a 'direct

analogy' between these two types of evidence (1996: 50-53, 1979:191). The use of bronze pectoral type armours was common to all the peoples of peninsular Italy, including the Etruscans and Romans. These pectorals were disc or rectangular shaped, 20-25cm in diameter, and decorated with embossed or incised geometric/zoomorphic designs. The term 'pectoral' in this case refers to both the front and back plates, which were held in place by leather straps. Around the beginning of the 6th century there developed an increasing complexity of design, especially in regards to the shoulder straps. Leather straps were then supplemented by a single hinged strap, made of bronze plates backed with iron, which was worn across the right shoulder. The hinged shoulder-plate was secured to the disc pectoral by an upturned hook to a ring fastener. These single-disc pectorals appear to have developed in the central Apennines as is indicated by the density of finds from the Abruzzo region, which encompasses the tribal territories associated with the Marsi and the Samnites. Tagliamonte's study cites 65 single-disc cuirasses from the 7th to the late 6th centuries within this area (Tagliamonte 1990). The statue of the Capecetrano warrior, which was found in the region just north of Samnite territory, provides a three-dimensional view of how this pectoral was worn. It shows the single-disc cuirass in great detail along with the complex arrangement of straps that formed the harness and were also designed to suspend a sword in scabbard (Connolly 1981: 101-102, fig.5).

The triple-disc cuirass first appears in Alfedena at some point in the early 5th century. I will discuss why this triple-disc form may have developed in the next chapter, as I believe it is directly related to outside influences on Italic armour design. It will suffice to say at this point that the triple-disc cuirass was of a more advanced, yet simpler design than the complicated harness of the single-disc type from the previous century. Salmon originally believed the triple-disc cuirass evolved from the single-disc pectorals, stating 'additional protection was given by placing a second disc alongside it; and by the 4th century if not earlier a third disc had been added below the other two' (1967: 109). Connolly disproved Salmon's supposition by examining the only double-disc cuirass known at the Louvre. The double-disc was actually a damaged triple-disc cuirass, which had been trimmed, probably to make it more attractive to collectors (1986: 118).



Connolly doubted the connection between the single and triple-disc cuirasses partly on the basis that there were no intermediate examples to trace a clear line of development. But there need not be a second disc for these two types of armour to be related. The breast- and back-plates are forms which could be altered without changing the function of the armour. The fact that the breast and back-plates of the triple-disc cuirass are composed of discs is in itself significant. The connection of the single and triple-disc cuirasses are in the technical features of armour making. This is exhibited in the hinged attachment straps and upward turned hook clasps, which show a continuum in form and function. There is also a progressive development from a single hinged shoulder strap, supplemented by leather ones, to two shoulder and side straps. Indeed, this is evident in the single-disc harness depicted in an Etruscan tomb painting from Ceri, dated from the end of the 6<sup>th</sup> to the beginning of the 5<sup>th</sup> century (Connolly 1981: 97-98). In the Etruscan example, however, the shoulder and side straps appear to be leather rather than bronze. The single-disc cuirass lingered on into the 4<sup>th</sup> century as evidenced by examples found on south Italic vases, but these are exceedingly rare. In every instance, however, these 4<sup>th</sup> century depictions show the single-disc pectoral is shown suspended by a harness of two side and two shoulder straps, which seem to be bronze. A Lucanian krater in Vienna, dated 380-370, depicts a warrior with a pilos helmet and broad bronze belt (Trendall 1967: pl.413). The warrior wears a single-disc cuirass with what appears to be embossed shoulder and side-plates. Similar depictions of the single-disc cuirass suspended by a harness are found on two Campanian vases at the British Museum and both dated to the middle of the 4<sup>th</sup> century (Schneider-Herrmann 1996: 57, pl.56b). These representations indicate the transition to a four-strap harness to secure the pectoral, whether it was of single-disc or more commonly the triple-disc variety, over the chest and back. The hinged straps, and the breast and back-plates of the Italic cuirasses continue to display an increase in the technical complexity of their design and standard of workmanship. These bronze hinged shoulder straps have no parallels with Middle Eastern representational sources and appear to have been an Italic innovation.

### 2.3. Typology of the triple-disc cuirass

In *Greece and Rome at War*, written over twenty years ago, Connolly knew of only 15 examples of the triple-disc cuirass (1981: 109-110). Currently, I have managed to locate the remains of 45 cuirasses, but there are almost certainly more within museums and private collections, which are not generally known. The recent auctions of armour from the Axel Guttman collection at *Christies* in November 2002 and April 2004 have revealed six previously unpublished or little known triple-disc cuirasses. Another triple-disc cuirass appeared once on the market in New York in 2003 (Fortuna Fine Arts 2003: 24). It is difficult to assign a strict typology to triple-disc cuirasses when there are so many variations, which show overlapping features in form and style. Despite this problem some general types can be discerned, which seem to include features that are both regional variations and temporal developments.

Previously, there has been very little research conducted on the triple-disc cuirass. Connolly's, 'Notes on the development of breastplates in Southern Italy', 1986, was the first work to specifically examine this type of armour among others. This was a tentative study, which identified three types of triple-disc cuirass, based on a comparative analysis of the differences in the form and style of breastplates. This study looked at a sample of only seven cuirasses, most of which came from old collections that lacked any reliable provenance or date. Thus, Connolly was limited to outlining a possible developmental sequence of the triple-disc cuirass and its relationship to other south Italic armour types, notably the rectangular anatomical cuirass which will be discussed in chapter three (Connolly 1986: 117-125). He did however identify technical features which were characteristic of this type of cuirass.

In *The Samnites of the Fourth Century BC*, 1996, Schneider-Herrmann briefly examined a sample of seven triple-disc cuirasses (which included four new examples not featured in Connolly's study) and also classified these into three types. This typology was based on the shape of the breastplates and stylistic variation in decoration. Like Connolly, Schneider-Herrmann identified the triple-disc cuirass from Alfedena as the earliest type, which has been followed in the present typology. Her type 2 cuirass was differentiated from the type 1 by having a more triangular outline, without lobes, which did not follow the contours of the three discs. The type 3 were highly decorated cuirasses

and were divided into two sub-variants, in which one had the head of Athena for a third disc, while the other a demon. She also included a short art-historical critique and comparison with depictions of the triple-disc cuirass on red-figure vases (Schneider-Herrmann 1996: 46-51).

At present I have classified the triple-disc cuirass into five main types, by their characteristic differences in form and stylistic variation. These types are listed as, 1. Alfedena, 2. Magna Graecia, 3. Angular Lobe, 4. Northern, and 5. Late. I will first discuss these distinctive types of the cuirass for which there is more than one example. These cuirasses can be most easily identified as a certain 'type', due to their shared stylistic and technical features. It becomes progressively more difficult to categorise the numerous singular examples, as it is not entirely clear if they are unique pieces or not. Therefore, after examining the five main types, I will analyse the cuirasses from Paestum. The Paestan examples, which come from dateable tomb contexts, offer the most opportunity in understanding the development and chronology of the other triple-disc cuirasses.

### Typologies

**Type 1 (Alfedena-type):** There are 12 examples of this type and its variants located in collections at Rome, Prague, Pescara, Aquila, Naples, Paris, Oxford, the New York market with Alfedena and Chieti having two each. This cuirass has been named the Alfedena type as three examples have been attributed to this location while two others originate from Spoltore and Marisca and are within close proximity. Only the cuirass from tomb 169 in Alfedena (T1) comes from a known context and has been dated to the first half of the 5<sup>th</sup> century (Cianfarani 1969: 46-47). Examples (T2, T3, T4, T5, T6) are virtually identical to cuirass (T1) although the method in which they are fastened at the shoulders may vary. The so-called double-disc cuirass (T7) is actually a type 1 breast-plate which is believed to have been doctored (Connolly 1986: 118). The characteristic features of the type 1 cuirass include convex discs, which rise to an apex which are encircled by wide pronounced rims. A separate reinforcing strip decorated with incised patterns is riveted across the top portion of the breast and back-plate. There is very little space between any of the discs. Between the two upper pectoral discs and the lower

abdominal one are two teardrop shaped lobes, which protrude outward from the breastplate. These lobes also have a raised surface and are where ring attachments are riveted for side-plates to be fastened. There are no perforations along the outer edge of the cuirass, and no discernible difference between breast and back-plates. Example (T5) from Alfedena now at Oxford was of robust construction and 2mm in thickness which is comparable to that of the muscle cuirass. The shoulder plates are secured to the breast and back plates by a number of different arrangements: these include one, two and three ring attachments, or hinges. Example (T1) had shoulder-plates secured by a single ring attachment while cuirass (T9) from Spoltore had two rings. Examples (T2) from Aquila and (T4) from Alfedena were fastened by three rings (figs.6-7). In the case of cuirass (T8) from Ruvo a hinge was used to secure the shoulder-plates to the breast and back-plates (fig.8). I am suspicious of the manner in which the New York market specimen (T44) is secured (fig.17). Both the shoulder and side-plates are fastened by hook and ring attachments which would not have been a very reliable method of securing the cuirass. It is also curious that the shoulder plate is a single piece instead of two hinged plates.

There are two cuirasses which share many features of the Alfedena type, but with some slight differences and may therefore be before later variations of the type 1. Example (T11) at Pescara, which was found in the Abruzzo has the same robust discs with thick rims but the lobes have widened out to create a more gently curving triangular shape (fig.9). The portion above the two upper discs has been raised slightly and lacks the narrow strip. These minor differences of the Pescara example seem to be either a derivative or variant of the type 1 cuirass, but without a datable context it is impossible to be certain of which. As such, it has been classified as variant 1A. Example (T10) from Manoppello now in the Chieti museum, survives in three large fragments (fig.8). There are two highly decorated reinforcing strips from the fragments of a breast- and back-plate similar to that of the type 1 cuirasses. The third fragment is of a portion of the lower disc, which has a decorated lobe protruding from it. Although the discs are large and set close together they are less convex than the standard type 1 cuirass and have a double rim. Example (T10) seems to be a derivative of the type 1 as it shows more advanced features found on later cuirasses.



**Type 2 (Magna Graecian-type):** There are five examples of this type, which are located in Naples, Senise, Carthage, Karlsruhe and once on the Swiss market. All parts of this cuirass are highly decorated in repousse with Hellenic-style motifs. The face of Minerva is found on the lower disc of both the breast and back-plates of the examples from Carthage (T14) and Naples (T16, figs.9, 10). The two upper discs on the back-plate are rosettes, while the upper discs on the breastplate are concentric circles. The same types of concentric circles are found on the upper discs of the Swiss example (T17) but the lower disc has the head of a gorgon (fig.10). Concentric circles are found on the lower disc of the back-plate from Senise, (T15, fig.9). On all cuirasses there is a crocus or lotus plant, rising from the centre of the lower disc between the two upper discs. On the examples from Carthage and Naples (T14) and (T16) the base of this plant is shown to be leaves and the stem is divided into three segments. The Swiss and Senise examples (T17) and (T15) have a small circle and two projecting rays at the base of the plant and the stem is smooth.

There is a wide raised portion above the two upper discs, which has a decorative strip of circles (probably *paterae*) supported by four Ionic columns. This may only pertain to the back-plate as the dipping neckline and necklace in *repousse* of eight acorns differentiates the breastplate in the Carthage and Naples examples. Two Ionic columns are on either side of the acorn necklace supporting partial decorative *paterae* strips. Again in the case of the columns there is differentiation between the cuirasses from Carthage and Naples, which have fluted Ionic columns, whereas the Swiss and Senise examples are smooth. Hinged shoulder plates are connected by single ring attachments, which have decorative *bucrania* motifs. The Naples example, however, has shoulder plates which are attached to the breast and back-plate by hinges. Another difference in decorative motifs, which separates these two sets of cuirasses, is found on the curving lobe area where the side-plate would be attached. On the Carthage and Naples examples there is a curling vine motif from which three curved lines emerge. The Swiss and Senise examples have a design of two opposing curls surmounted by a palmette motif. The Carthage and Naples cuirasses were clearly made on a slightly different pattern than the Swiss and Senise examples and can therefore be separated into type 2A and 2B respectively. There are no perforations on the edges of the breast and back-plates.

The cuirass from Carthage is reputedly from a 3<sup>rd</sup> century tomb, and is often attributed to one of Hannibal's veterans. It is in fact the poster image for the upcoming Carthage exhibit in Karlsruhe: 'Hannibal at the gates'. A far more likely date, however, would seem to be sometime during the 4<sup>th</sup> century. Schneider-Herrmann states that the decoration of the bottom discs on the Ruvo and Carthage examples allow us to date the cuirass more precisely. The head of Athena (Minerva) seems to be a variety of the Acropolis Athena from the early 4<sup>th</sup> century. This example shows evidence of Tarentine influence; the heavy chin is comparable to that seen on Tarentine terracottas. The demon head on the Berlin example is early Hellenistic period, dated to the end of the 4<sup>th</sup>/ early 3<sup>rd</sup> century. The style is somewhat classical; note the Greco-Italic style portrayal of the hair (Schneider-Herrmann 1996: 48). The cuirass in Naples reputedly comes from Ruvo, while the Senise example was uncovered during the digging of an irrigation ditch. Little mentioned is a set of side plates from Ruvo (T45) now at the Karlsruhe Landesmuseum, which are identical to those found on the cuirasses from Carthage and Ruvo (fig.17). They are decorated in repousse with a central disc motif flanked by palmettes on either end of the side-plates. They clearly belong to another cuirass of which the breast and back plate have not survived.

**Type 3 (Angular-lobe type):** There are three examples of this type, two in the Guttmann collection (T19) and (T20) and one in the British Museum (T18, fig.10). All of these cuirasses are characterised by a slightly angular protrusion, between the upper and lower discs, instead of a rounded lobe, as the type 1 cuirasses have. They also have flat breast and back-plates with thin rims around the discs. The Guttmann cuirasses have an upper reinforcing strip, which is serrated and riveted to the upper portion of the breast and back-plates and perforations for a lining. The British Museum example however, has a reinforcing strip, which has been made from folding over the upper portion of the breast-plate, this also is serrated but not as sharply as the Guttmann examples. The folded over reinforcing strip suggests the British Museum example is later than the Guttmann examples, as the separate riveted strips are a feature found on the type 1 cuirass. The type 3 cuirasses are very similar in form to the two examples from Paestum (T21) and (T22) which are dated from 400-370, and so are likely to be contemporary (fig.11). The

British Museum example is allegedly from Ruvo, if this attribution is accurate it suggests that the angular lobe feature may be a temporal development that was found in different regions, such as Paestum.

**Type 4 (Northern-type):** There are three examples of this type, located at Chieti (T30) Campi (T29) and on the London market (T28, fig.14). Characteristic of this type the discs have thin rims and there are no protruding lobes at all. The shape of the breast and back-plates are more triangular with flat sides where the lobes would have been present. A decorative feature is small embossed bumps, which protrude from the surface of the breast and back plates. Four of these bumps are located at the top of the pectoral, one in the centre and one by each ring attachment for the side plates. The reinforcing strip is a portion of the upper edge of the cuirass, which is folded over with a serrated edge. There is no discernible difference between breast- and back-plates, and none of these have perforations around the edges. No side or shoulder-plates are extant from any of these cuirasses, although a riveted attachment is found for a ring fastener on examples (T29) and (T30).

Two other examples, which display similar features to the type 4 cuirass, are found in Caramanico Terme (T35) and the former Guttman collection (T31, fig.15). The example from the former Guttman collection differs by having only three embossed bumps between the two upper discs and has perforations around the edge. The stylistic similarity suggests this cuirass is from the same area and has been designated type 4A. I could not discern if the example from Caramanico Terme has the decorative bumps from the poor image I had, but it seems very similar in having a triangular shaped breastplate with no lobes, and thin-rimmed discs, it may in fact be a type 4 cuirass. The proximity of the Caramanico Terme example to those found in Spoltore and Pennapiedmonte seem to show shared ideas in style and design within this region.

Another example in Boston (T32) is dated between 400-300 and said to come from Vulci (fig.15). The triangular shape of this cuirass, with its flat sides and raised upper portion and thin-rimmed discs are nearly identical to the type 4. It also has a similar leaf-shaped riveted piece for a ring fastener. But the Boston cuirass is embellished with decorative faces on the discs of Hercules, Selene and Helios and is perforated around the

edges. The use of deities and mythological characters as decorative features, is comparable to those found on the type 2 Magna Graecia examples and may therefore be contemporary with them. If the attributed provenance of Vulci is accurate this cuirass may exemplify a hybrid of the northern type's form with decorative motifs from Magna Graecia. This example has been designated type 4B.

**Type 5 (Late type):** There are three examples of this type of cuirass from Paestum (T40) the Getty Museum (T33) and the ex-Guttmann collection (T34, figs.15, 16). The Paestum cuirass has an attributed date of 330-300, which classifies cuirasses of this type at the far end of the chronology. Both the Guttmann and Getty examples come from unknown provenances and are undated, but their features are clearly related to the Paestum cuirass, and so must be of a similar date. The type 5 cuirasses are characterised by having breast and back-plates with inward curving sides. Other features include discs with very thin rims and a raised upper portion. Decorative features vary considerably between the cuirasses of this type. The Guttmann cuirass (T34) has embossed collarbones which shows differentiation between the breast and back-plates, while the other examples exhibit no such distinction. The Getty cuirass is embellished with satyr head appliqués, which are used for ring fasteners for the shoulder-plates. The breast and back-plates themselves are decorated with incised figures between the upper discs, one representing a nude male with wings, the other a nude male with a cloak and broad brimmed hat. All of the type 5 cuirasses have regularly spaced perforations for a lining.

#### 2.4. The Paestan types

Paestum is an extremely important site in understanding the evolution of the triple-disc cuirass. There are a total of nine triple-disc cuirasses from Paestum, the largest amount from any one site. These cuirasses are dated by tomb contexts to a period spanning 420-300. Unfortunately, I have been unable to acquire an image or details for two of these cuirasses, examples (T38, T39, fig.16). The remaining seven cuirasses however, offer the unique opportunity to examine the development and variation in armour that might occur within a single community over roughly a century. It is likely that similar parallels in development existed in other south Italic communities during the



same period. The Paestan cuirasses could therefore be looked upon as contextual guideposts from which cuirasses of other south Italic sites can be compared and categorised. At present there is one clearly defined type of triple-disc cuirass unique to Paestum, which can be classified by identical features, these are examples (T21, T22 fig.11). The five other cuirasses are singular examples which bear little resemblance to each other although there is overlap in some features. What is clear from the existing evidence is that more than one type of triple-disc cuirass was being used concurrently in Paestum. Contextual dates do not, however, provide an entirely reliable indicator of chronological sequence as they merely reflect the date the armour was deposited in the tomb and not when it was in use. The ages of tomb occupants vary considerably in some instances and older warriors may have retained earlier styles of equipment longer.

I have listed the seven Paestan cuirasses chronologically describing their characteristic form and features. This is followed by a comparison and analysis of triple-disc cuirasses depicted in contemporary Paestan tomb paintings. The study of these iconographic images may help to reinforce or broaden the chronology established by the actual cuirasses. Finally, I have highlighted stylistic and technical changes, which are exhibited in the features of the Paestan examples. These developments have then been used to analyse the features of those cuirasses that have not yet been classified. The cuirasses are listed below 1-7, along with their catalogue number and attributed date.

### **Paestan Cuirasses**

1. T23 (fig.12.1). 420-400. This is the earliest triple-disc cuirass from Paestum and dates to just before the Lucanian capture of the city. It was found on the body of a male 25-30 years old. The cuirass has nearly all its component parts with only the right shoulder plate is missing. There is no discernable difference between the breast and back-plates. The form of the breastplate has three discs of equal diameter, approximately 13.5 cm. The rims around the discs are narrow and the lobes curve outwards but are less pronounced than the type 1 cuirass. There are widely spaced perforations on the edges of the cuirass. The shoulder-plates are attached by single ring fasteners to the cuirass while the side-plates have hook clasps.

2. T22 (fig.11.2). 400-390. This is one of two identical cuirasses the other being example (T21) and comes from tomb 110 San Venera necropolis. This cuirass is in very poor condition and had to be pieced together from fragments poured out of a plastic bag by the author and Peter Connolly in the repository of the Paestum Museum. The breast and back plates appear indistinguishable, and are perforated every 3cm along the edges. The most noticeable feature is the lack of rims around the discs. The three discs are raised slightly and have a flat surface. The two upper discs measure 13cm in diameter while the lower one is slightly larger. The upper edge of the breast and back-plates is straight but flares out at either end diagonally. Lobes exist in the form of slight angular protrusions, between upper and lower discs, which are similar to the type 3 angular cuirasses and so may be contemporary. The side-plate has a hook clasp similar to Suano's type 4B belt clasp, which was also found on the remains of the two belts which accompanied this cuirass.
3. T24 (12.2). 390-380. This cuirass is slightly bulbous in shape with three 12 cm diameter discs and rounded lobes. The discs are slightly raised but flat and have a rim of two narrow concentric bands. The upper portion of the cuirass has been folded over and has a serrated edge. There is no discernable difference between the breast and back-plates. All the shoulder and side-plates are intact and are attached to the cuirass by single ring fasteners. The shoulder and side-plates have been decorated with starbursts in repousse and have been folded over at the sides to give a more rounded edge.
4. T21 (fig.11.1). 380-370. This cuirass is identical to (T22) although it is in much better condition and dates up to 30 years later than the other example. All of the shoulder and side-plates are found with this example and again have the type 4B belt clasp. Little decorative palmettes are attached to the breast and back-plates to which ring fasteners are secured.
5. T25 (fig.13.1). 380-370. This cuirass is triangular in shape with no lobes between the upper and lower discs. There are however, two narrow slightly curving strips of bronze which have been riveted to where the lobes would have been present. These strips are serrated and decorated with a repeating arch motif. There is a

folded over reinforcing strip on the upper edge of the cuirass which is serrated and has the same repeating arch motifs as the false lobe strips. The upper discs are 11cm in diameter while the lower one is 13cm. The discs have three very narrow concentric rims and are relatively flat. In the centre of the discs are small 4cm discs which have been attached by means of a single rivet. There are a number of wide irregularly spaced perforations along the edges of the cuirass. Although there are no shoulder or side plates present there is an attachment for a single ring fastener.

6. T26 (13.2). 380-370. The cuirass is bulbous in shape and there is no difference between the breast and back-plates. The two upper discs are 11cm in diameter and the lower one is 12cm. There are no lobes between the upper and lower discs but there is a slight outward curve in the outline of the breastplate as a vestigial reminder. Interestingly there is a raised section of three connected prongs which radiate from the centre of the breastplate between the three discs. A similar effect is found on the type 1 cuirass. The discs are raised but flat with a single narrow rim. Around the edges of the cuirass are widely spaced perforations. The upper portion of the breastplate has a very wide folded over reinforcing strip which sits on the top edge of the two upper discs' rims. The reinforcing strip is serrated and is decorated with an incised repeating arch pattern. Only a single side-plate survives and there are corroded remains of iron rings to which the hook clasps would have been secured.
7. T40 (fig.16). 320-300. The latest of the Paestan cuirasses is quite different in the form of the breast and back-plate. There are no lobes or even vestigial reminders and the sides of the breastplate are concave following the contours of the upper and lower discs. The perforations along the cuirasses edge are quite close. There is a serrated reinforcing strip which has been folded over, it is narrow and decorated with repeating arch motif. All of the discs are of equal diameter approximately 10.5cm and have narrow rims. In the centre of the discs are the small discs similar to those found on example (T25). The shoulder and side-plates are all extant and are attached by means of a single ring fastener. This example has been classified as the type 5 late cuirass, as discussed earlier.

## 2.5. Images of triple-disc cuirasses found in Paestan tomb paintings

A number of Paestan tomb paintings show warriors wearing the triple-disc cuirass. These depictions are of particular interest because they are contemporary with the actual examples found within the burials. Schneider-Herrmann observes, 'It is remarkable that the details found on the Samnite bronze cuirasses are not depicted in vase painting. The vase-painters show only the basic pattern: of the 'triangle' (Schneider-Herrmann 1996: 64). Triple-disc cuirasses only appear on Campanian vases (Trendall 1967: 408/282, 277/302, 787/13, 143/60, 1423/98). The iconography shows warriors in a variety of activities, both ritual and martial. The cuirass depicted in these scenes correspond for the most part to a generic triangular pattern formed by three circles. This is not necessarily so with the Paestan tomb paintings, which in some instances are detailed enough to be associated with a particular type of cuirass. Although the details and proportions of the triple-disc cuirass may be simplified or exaggerated, they do show features that were considered distinctive and may help in associating these with actual examples to aid in establishing a chronological typology.

The earliest representation of this type of cuirass comes from tomb 12 Andriuolo and is worn by a cavalryman carrying a trophy over his shoulder dated 380-370, WP14 (fig.85.2). The breastplate's three discs are depicted as circles and in the centre of these are smaller circles. The small circles shown in the painting are similar in proportion to the little bronze discs found on the cuirass from tomb 2 Porta Aurea (T25) and is of the same date (fig.13.1). These little bronze discs were 4cm in diameter and were attached by a rivet to the centre of each of the three discs of the breast and back-plate. It also seems that the artist attempted to render the rim of the discs with a wide concentric line. There is however, no attempt to illustrate the shoulder or side-plates, it is simply an iconographic image of the general shape of the cuirasses breastplate.

In another painting from the next decade, 370-360 in tomb 7 Gaudo, the triple-disc cuirass is found on a duelling warrior who is naked, WP25. If the nudity of the warrior is an accurate portrayal of practice, at least within the context of a duel, it seems that the cuirass was sometimes worn without a tunic. In this painting the artist has depicted not only the three discs but also the shape of the breastplate, which curves



inwards indicating there are no lobes. The side-plates of the cuirass are shown by a thin rectangular band of yellow. The discs of the breastplate are depicted in the same manner as the example from tomb 12. The closest example to this breastplate is the very latest triple-disc cuirass found in Paestum, dating 320-310 and seems to be nearly identical in shape and features (T40, fig.16). There is however, a gap of at least 40 years between this painting and cuirass (T40). If this painting is accurate then it would seem that cuirasses with inward curving sides were in use by at least the middle of the 4<sup>th</sup> century.

In the following decade, 360-350, the cuirass is shown on a warrior fighting a mythological creature with a spear and bow from tomb 1 Arcioni (WP23a, fig.87.2). This image may be a local representation of Heracles as the bow is never shown being used by warriors. The breastplate is depicted as three plain discs which are connected by lines creating a roughly triangular shape with a wide space in the middle. Curiously, there is a small circle in the centre of the breastplate and between the three discs, something not found on any actual examples from Paestum. Shoulder plates are indicated but no side-plates. The triangular shape is very close to the type 4 Northern cuirass and example (T25) from Paestum (fig.13.1).

There are two examples of the triple-disc cuirass dated 350-340 which marks the last appearance of this type of armour in Paestan tomb paintings. In tomb 53 Andriuolo, the cuirass is shown on a duelling warrior who wears a loincloth and bronze belt (WP2, fig.83.2). The breastplate is shown as three large plain discs without rims, shoulder and side-plates are also indicated. The other example is from tomb 4 Vanullo and is worn by a cavalryman with trophy (WP36). This cuirass is depicted as three large discs with small circles in the centre, no rims are indicated. Finally, there is a painting from Paestum of unknown date and context, which shows a triple-disc cuirass amongst a panoply of arms which include a helmet, greaves, round hoplite shield and a Greek-style muscle cuirass (Pontrandolfo and Rouveret 1992: 302). The triple-disc cuirass is depicted as three yellow circles with a red body. The yellow circles representing the discs are the same colour as the helmet, greaves and muscle cuirass indicating they are bronze. It is unusual that the portions of the breastplate between the discs are red. It was suggested to me by Peter Connolly that some of these cuirasses might have been painted. It is, however, the only cuirass I am aware of depicted in this manner.

## 2.6. Developmental trends in triple-disc cuirasses

The type 1 Alfedena type cuirass appears to be progenitor of all other types of triple-disc cuirass. These are the earliest and most numerous type of cuirass, which show the most uniformity in design. The type 2 Magna Graecian, 3 Angular lobe and type 4 Northern cuirasses are also clearly distinguished as types having more than one example and exhibiting a uniformity of features that can be termed characteristic. The majority of triple-disc cuirasses, however, are singular examples which show a wide variety of features and are very difficult to categorise into any single type. At present I have abandoned the idea of trying to force all of these cuirasses into a strict typological classification, as it would become too awkward and arbitrary to be of any practical use. Instead, I have concentrated on identifying some general trends in the development of the triple-disc cuirasses. These trends should not be looked upon as a strict checklist in establishing the chronology of these later types. The evidence for reliable dating is too poor and it is likely that the triple disc cuirass evolved at different rates in different regions, and the input of individual taste may also have been a factor. Generally it can be seen from the earliest type 1 cuirasses to those types from much later contexts and the Paestan examples that the following changes in features occurred over time.

1. A narrowing of the rims around the discs
2. More than one rim around the discs
3. The reduction and eventual disappearance of the lobes
4. The reduction in size of the discs
5. The discs become less convex and in some cases are flat
6. The portion above the two upper discs rises
7. Differentiation between the breast and back plates
8. A folded over section along the upper edge of the cuirass
9. Increased amount of incised and embossed decoration

At present the most productive and flexible way of differentiating these cuirasses is through the changes exhibited in technical features and stylistic variation.

**Discs:** The discs of the earliest triple-disc cuirasses the type 1 Alfedena, are very pronounced and almost conical with wide rims. Subsequent examples seem to exhibit the following changes: a narrowing of the rims, the lessening in the convex surface of the discs and the reduction in the diameter of discs. Other trends such as the appearance of multiple, concentric rims and the embellishment of the discs with repousse or appliqué decoration are also evident although not as prevalent. Cuirass (T23) from Paestum, dated 420–400, shows that narrow rims are a relatively early development. Discs without any rims, such as examples (T21) and (T22) appear in Paestum by 400, but this seems to be a purely local feature as no other cuirasses like this have been found elsewhere. Double rimmed discs appear in Paestum by 390 (example T24), and triple rims by 380 (example T25). But tomb paintings and later cuirasses in Paestum show that single rim discs were still being used as well. All of the Paestan cuirasses have discs, which have a flat surface, so it could also be surmised that this development occurred relatively soon after the triple-disc cuirass spread across southern Italy.

It is interesting, however, that the type 4 northern cuirass retains convex discs, although not nearly as pronounced as the type 1 and with narrow rims. Since the type 4 is dated to around 350, at least 70 years later than the earliest Paestan example, it suggests that discs with flattened surfaces were a regional preference. The reduction in the diameter of the discs is evident from the Paestan examples where they descend chronologically: (T23) dated 420–400 had discs 13.5cm, (T22) dated 400–390 had discs 13cm, (T24) dated 390–380 had discs 12cm, (T25) dated 380–370 had discs 11cm, (T26) dated 380–370 had discs 11cm, and (T40) dated 320–300 had discs 10.5cm. Unfortunately there are no other sites from which to compare the Paestan evidence with, but from the small diameter of discs found on cuirasses with many later features it seems likely this was a temporal development that was occurring gradually throughout southern Italy. The overall appearance of some of these triple-disc cuirasses can be extremely elaborate, and seem to corroborate descriptions given by later ancient authors of ornate armour used by the Samnites (Livy X.40, Florus I.XI.7).

The embellishment of the discs themselves seems to have been a feature that was region specific. In Paestum for example cuirasses (T25) and (T40) had small bronze discs riveted to the centre of the three discs (figs.13, 16). This decorative feature is also

depicted in many tomb Paestan tomb paintings. One such painting which was previously mentioned is from tomb 12 Andriuolo (WP14) dated 380-370 (see p.70). Other examples which show triple disc cuirasses embellished with small central discs include: tomb 1 Sequestro Finanza dated 370-360, tomb 7 Gaudio dated 370-360, tomb 4 Vanullo dated 360-350 and tomb 1/1990 Arcioni dated 360-350 (Pontrandolfo and Rouveret 1992: 251-3, 286-7, 298). At no other site are these small riveted discs found on the triple-disc cuirass. In Spoltore and Pennapiedmonte, examples (T29) and (T30) of the type 4 variety, have discs embellished with embossed dimples or teats. These too are not found elsewhere in southern Italy (fig.14.2-3). The type 2 cuirasses discs, decorated with rosettes and the faces of deities and demons may also be a regional feature, as all the ones from Italy are attributed to sites in Apulia. From the Getty museum is an example said to come from Etruria (T12) which has discs with a narrow raised inner rim and a wider outer one, which are unlike those found on any other cuirass (fig.9.2). An interesting point about its manufacture is that the discs are unevenly spaced. The upper left hand and lower discs actually touch, whereas the upper right hand disc is separated by a great deal of space. This suggests the piece was made rapidly, without the usual care and attention to detail that is found on other triple-disc cuirasses.

**Reinforcing strip:** The type 1 cuirasses all have a separate strip of bronze riveted to the upper edge of the breast and back-plates. This reinforcing strip is often decorated with incised patterns of curving lines joined with small circles. Later cuirasses, which have these separate riveted strips tend to get much wider and are decorated with more complex patterns. Example (T10) from Manoppello has numerous rows of zig-zag designs, while the unprovenanced cuirass from the ex-Guttmann collection (T36), has a very wide strip with a horizontal vine leaf motif (figs.8.4, 15.4). The earliest Paestan cuirasses, (T23) and (T22) dated 420-390, have no reinforcing strips, as do the type 2 cuirasses and a number of seemingly later examples (T27, T33, T34, T42, figs.15,16). But from 390 onwards cuirasses from Paestum all have a reinforcing strip made from folding the upper portion of the breastplate forward and on to itself. These often have a serrated edge to them and appear to get wider over time. The type 4 cuirasses have a very narrow folded strip with serrated edge, while numerous other examples, (T12, T13, T18, T41 and T43)



display strips of varying width (figs.9.2-3, 10.3, 16). There are also two cuirasses from the Guttmann collection, (T19) and (T20), which combine the separate riveted reinforcing strip with the serrated edge found on the folded over examples (fig.10). Unfortunately these are unprovenanced, but both are of the type 3 angular lobe variety, and so probably date from before the middle of the 4<sup>th</sup> century. While changes and embellishments to the reinforcing strip were certainly occurring over time, the use of folded design in Paestum shows that regional preferences and perhaps craft traditions were also factors.

**Body:** The changing design in shape of the breast and back-plates show a wide variety of developments, but some general trends can be noted. The outline of the type 1 cuirass follows the contours of the discs and the protruding lobe between the upper and lower discs. The changes that could occur to the original design of the type 1 over a century is clearly evident from the Paestan examples. The earliest example (T23) dated 420-400 conforms to the basic principle of the type 1's design in shape, only the upper edge of the cuirass is raised slightly higher (fig.12.1). Examples from the next 20 years (400-380) show a curving of the lobes, either inwards as seen on cuirass (T22) or spreading wider as displayed by cuirass (T24, figs.11, 12). By 380 in Paestum, the protruding lobes had contracted giving the breast and back-plates a much more triangular outline as found on cuirass (T25, fig.13.1). This triangular shape is characteristic of the type 4 northern cuirass which can be dated to at least 350.

Contemporary with this development is the continued reduction in the diameter of the discs. This results in the shape of the cuirass becoming somewhat bulbous, with the discs no longer forming the breastplates outline, as seen on Paestan example (T26, fig.13.2). Other examples of this bulbous shape are found at Karlsruhe (T27), and Madrid (T42, figs.13, 16). The cuirass from Karlsruhe being attributed to Apulia shows that this was a development not exclusive to Paestum. The latest form of the triple-disc cuirass in Paestum (T40) which is classified as the type 5 variety, is dated to 320-310 and is characterised by inward curving sides where the protruding lobes had once been (fig.16). This gives the cuirass a very distinctive shape, emphasising the breadth of the pectoral muscles by the width of the two discs over the lower abdominal disc. Paestan

tomb painting WP2, clearly illustrates this type of breastplate, which pushes the date of this type of cuirass to the middle of the 4<sup>th</sup> century (fig.83.2). Two other cuirasses of unknown provenance, from the Getty museum (T33) and the Guttmann collection T34, are of a similar form to the Paestan example (T40, figs.15, 16). Although it is impossible to determine where these two cuirasses originate they both have decorative features that suggest a very late 4<sup>th</sup> to early 3<sup>rd</sup> century date, this seems to confirm that the inward curving breastplate was a temporal development.

**Differentiation:** The vast majority of triple-disc cuirasses show no differentiation between breast and back-plates, although it is difficult to be certain with examples in which only one of the plates survive. There are however, a few examples which do exhibit features that make this distinction. The highly decorated type 2 Magna Graecia cuirasses (T14-17) clearly indicate the breastplate by a dipping neckline and a necklace of acorns in repousse, while the back-plate has straight upper edge (figs.9, 10). The example from Karlsruhe (T27) has the same type of dipping neckline, although the rest of the cuirass bears no resemblance to the type 2 cuirasses (fig.13). It is difficult to determine if this is a temporal development as none of these cuirasses come from contexts, which can be dated reliably. Decorative features on the type 2 suggest a date of some time around the middle of the 4<sup>th</sup> century. The Karlsruhe cuirass is attributed to Apulia, and two of the Magna Graecian examples, (T15) and (T16) also come from this region, Senise and Ruvo (figs.9, 10). It is therefore possible that the dipping neckline was a regional feature. An unprovenanced example from the ex-Guttmann collection (T34) also shows differentiation by showing a slight dip on the upper edge of the breastplate and two embossed collarbones. This shows quite clearly that the triple-disc design was indeed an abstraction of the torso as Connolly had suggested (Connolly 1986: 118, fig.14). The design of cuirass (T34) with inward curving sides suggests a date of the late 4<sup>th</sup> or possibly early 3<sup>rd</sup> century. These types of embossed collarbones are also found on the rectangular anatomical cuirasses discussed in the following chapter, which are dated from the middle to the late 4<sup>th</sup> century.

## **2.7. Completeness of triple-disc cuirasses**

Although I have listed a total of 45 triple-disc cuirasses most of these are incomplete. A list of the components of these cuirasses has been compiled in which the presence of a particular piece is indicated with an X (see fig.2). A total of 13 examples are represented by only a single breast or back-plate, when there is no way to discern between the two, a breast-plate has been indicated. Cuirasses in this state are frequently found in older and private collections. Six more cuirasses consist simply of a set of breast and back-plates. The side and shoulder plates are the components of the cuirass, which are most often missing. This has led some to suppose that leather straps were sometimes used in place of bronze plates. Although this is perfectly plausible all of the cuirasses that come from known contexts have been found with the remains of side and shoulder-plates. These plates are often found in fragmentary condition and it seems likely that they were discarded by earlier collectors, who either failed to realise their significance or believed them too damaged to be worth anything. There are a further 13 cuirasses which are incomplete missing either side or shoulder plates. Only 10 triple disc cuirasses are complete with all their components or remnants of these parts. Most of these examples were recovered from Paestum and Alfedena where the side and shoulder plates have been preserved. Curiously, there are two side plates from Ruvo (T45) now in Karlsruhe, for which there are no breast, back or shoulder plates (fig.17.2).

## **2.8. Distribution and chronology of triple-disc cuirasses**

At present 26 of the 45 triple-disc cuirasses have a provenance more specific than Southern Italy or a constituent region of this area. The 26 provenanced examples are distributed over 13 sites (fig.18). By far, the largest concentration of triple-disc cuirasses is from Paestum with nine examples, followed by Ruvo with four, Alfedena with three, and then Spoltore with two. All other provenanced examples are single finds from Marsica, Caramanico Terme, Manoppello, Senise, Pennapiedmonte, Majella, Oratino, Carthage and Vulci. Only two of these cuirasses, Carthage and Vulci, come from outside southern Italy. When one considers the number of cuirasses that come from known archaeological contexts, which can be dated, the sample is further reduced to 10 examples. These 10 cuirasses are distributed over four sites, seven of which are derived

from a single site, Paestum. The remaining cuirasses with datable contexts are from Alfedena, Pennapiedmonte and Spoltore. With so many examples from one site, and so few from elsewhere, the present distribution pattern is of limited value. Paestum provides the only other examples from datable contexts ranging from 420 to 300. The cuirasses from Paestum show that a variety of types were in use over 100 years. The triple-disc cuirass is also depicted in Paestan tomb paintings as late as 330, and on Campanian vases to 300. This evidence gives the triple-disc cuirass a life span of nearly 200 years, although it is probable that it was in use for a much longer period.

One problematic aspect is the discrepancy between the distribution of the archaeological remains and the representational evidence, especially in Campania and Apulia. Although no triple-disc cuirasses have yet been found in what was once ancient Campania they are profusely illustrated on red-figure vases from this region, which are contemporary with actual examples found elsewhere (Trendall 1967). In fact, they are depicted more often than any other type of armour and more frequently than in those regions where actual cuirasses have been uncovered. These illustrations strongly suggest that Campanian warriors were equipped with triple-disc cuirasses. The lack of examples from tombs in Campania could be that they have failed to survive archaeologically, or were not included in burials as grave goods. It is interesting that although four triple-disc cuirasses are attributed to Ruvo, and one to the region of Puglia, they do not appear at all on Apulian red-figure vases. In the rare instances when armour does appear on Apulian vases it is the Greek-style muscle cuirass that is depicted, and several of these have been found in burial contexts. The triple-disc cuirass is also absent from Lucanian vases, but it is well represented in the armour and paintings from tombs in Paestum. The presence of actual examples of armour show that gaps in the representational sources are probably due to the artistic conventions practised in those regions. This type of negative evidence shows that the iconography must be used with caution and compared with other sources of data whenever possible.

Spatial analysis of the triple-disc cuirass is also burdened by the nature of the context in which they have been found: warrior burials. A distribution pattern based on burials alone is susceptible to distortion from a variety of contextual limitations. The chronological range of analysis, for example, is restricted from the late 5<sup>th</sup> century to the



beginning of the 3<sup>rd</sup>, when the practice of warrior burials and the production of red-figure vases is discontinued in southern Italy, leaving no further archaeological or iconographic evidence of the triple-disc cuirass. The variation in mortuary practices between communities, some of which did not bury their warriors with body armour, creates further distortions in the distribution pattern. Although in some regions, such as Campania, the complete absence of triple-disc cuirasses in burials can be offset by the large number of red-figure vases in which it appears. The prevalence for the excavation of well known or easily reached sites has perhaps contributed to the high concentration of cuirasses being retrieved from single sites, most notably Paestum. Another problem is the appeal of the artefact itself. The demand for South Italic armour on the antiquities market has increased dramatically since the 1970's (Elia 2001: 148). Distinctive items, such as the triple-disc cuirass have become extremely popular with collectors contributing to the demand for such pieces. The six examples from the ex-Guttmann collection testify to the magnitude of this dilemma and there are reputed to be several more cuirasses from this collection. Subsequently, numerous unprovenanced cuirasses have appeared on the antiquities market, which do nothing to illuminate the distribution pattern or chronological sequence. Thus, at present, not a great deal of detailed information can be gathered from the current distribution pattern.

### **2.9. General observations of the triple-disc cuirass**

Overall, some general observations can be made about the distribution and evolution of the triple-disc cuirass. It is a distinctive form of armour, especially prevalent in Oscan speaking regions affiliated with the Samnites, and is only rarely found beyond the range of southern Italy. When this does occur it is in areas, such as Carthage, Etruria and Sicily, where according to ancient sources, Samnites, Lucanians and Campanians were active as mercenaries. It could therefore be safely surmised that the triple-disc cuirass was a form of armour that was characteristic of the south Italic peoples. When placed within an historical context the distribution of the triple-disc cuirass takes on a tantalising significance. Among the earliest examples of the triple-disc cuirass are those found at Alfedena in the central Apennines which are dated to the middle of the 5<sup>th</sup> century. The appearance of this type of armour in the surrounding coastal regions north, south and west of the Apennine highlands at the end of the 5<sup>th</sup> and the beginning of the 4<sup>th</sup>

centuries corresponds to the period of Samnite/Lucanian expansion posited in ancient sources (Livy IV.37; Pliny the elder III.71; Strabo VII.3; Velleius Paterculus I.14.7). Although it would be a mistake to use the triple-disc cuirass as a means of identifying the movements of a particular people or political entity, there appears to be some correlation between its appearance in the late 5<sup>th</sup> and early 4<sup>th</sup> centuries and the wars of conquest fought in these areas. What is quite certain is that the Greek and Etruscan elites, who did not use this type of equipment, were displaced in Campania, Lucania and Apulia by a ruling elite that did, and during the period literary sources claim highland Samnites and related peoples conquered them.

It is evident that from its introduction, in the central Apennines sometime in the 5<sup>th</sup> century, the triple-disc cuirass underwent a transformation from a single type of armour to a large number of varieties throughout southern Italy by the end of the 4<sup>th</sup> century. This raises questions about the evolution of this cuirass. Why did this happen? What forces were at work that would result in such a divergence from its original form? And what did these variations in the form and features of armour mean? Were they the result of individual taste, changes in style, or regional preferences and therefore perhaps indicative of group identity? There is unlikely to be a single cause or answer to any of these questions, and it is clear that a combination of influences were at work. But the impetus for change must have been much greater in the 4<sup>th</sup> century when the escalation in the scale and duration of warfare increased dramatically. Interestingly, although there is a marked homogeneity in the basic triple-disc pattern used throughout southern Italy, the sheer number of varieties seems to indicate it was produced at a fairly local level. The simple form of the triple-disc would have been relatively easy to produce compared technically advanced and closely fitted armour, such as the Greek muscled cuirass. Some triple-disc cuirasses, however, are identical or so similar that they must have been manufactured in the same area, if not the same workshop. Even extremely ornate pieces, such as the type 2 triple-disc cuirasses found in Carthage and in Ruvo. This suggests that on occasion these cuirasses could be mass-produced. We can only speculate at the historical circumstances, which resulted in these two near identical cuirasses ending up in two very distant geographical locations, but clearly warfare, or the prospect of it must figure largely. The similarity between the clasps found on the belts, and those on

cuirasses suggest that they were made from the same moulds and then assembled as part of a single panoply (Yu 1994: 6). Indeed, the panoplies from tombs 197 (T21) and 174 (T24) from the Gaudio necropolis of Paestum both have belt clasps which match the side-plate hooks from the cuirasses. Slight variations of stylistic features may modify the outward appearance of the triple-disc cuirass, but do not alter its basic form. The south Italic peoples must have felt some sort of cultural affinity to retain the triple-disc form for such a long period of time. Typological analysis suggests that the variation in features were regional and chronological developments that occurred simultaneously and over time. We can see this evolutionary process most clearly in the examples from Paestum, where progressive modifications span a period of over 100 years.

### Chapter III: Italic anatomical and Greek-style cuirasses

#### 3.1. Body armour in Southern Italy

This chapter examines three categories of body armour: the first is the bronze muscle cuirass, which most closely resembles and is often identical to, the Greek version. It is likely this armour was being manufactured in Italy so therefore it shall be referred to as the Greek-style muscle cuirass. This type of cuirass was composed of a breast and back-plate, which covered the area of the body from the neck to the lower abdomen. It was decorated in the form of a muscled male torso and was the archetypal form of body armour associated with the hoplite, or heavy infantryman. The second category of armour is the rectangular anatomical cuirass, which had evolved from earlier Italic armour designs. This cuirass consists of a breast and back plate decorated with anatomical features which in some instances were near identical to those found on the Greek-style muscle cuirass. The form of the cuirass was similar to the triple-disc cuirass in form and had separate shoulder and side plates. This type of armour did not cover as much of the torso as the Greek-style muscle cuirass but allowed for a greater range of movement and was substantially lighter. The third category is the linen corselet, sometimes referred to as the composite corselet: Most of the corselet seems to have been made from layers of linen glued together but could also be reinforced by metal plates or scales. The corselet was secured around the torso and had two attached shoulder guards. Unlike the first two categories of bronze cuirasses no example of the linen corselet has survived in the archaeological record. The evidence is therefore limited to representations on tomb and vase paintings. The bronze muscle cuirass and the linen corselet are of Greek origin and were probably first adopted in varying degrees by the south Italic peoples at some point during the 6<sup>th</sup> century.

Surprisingly little has been published on the Greek-style muscled cuirass in Italy, Hagemann's *Griechische Panzerung*, 1919, written 85 years ago is the earliest comprehensive examination of this type of armour. Snodgrass *Greek Arms and Armour* 1967, adds little to our understanding of the cuirass, merely making general observations on its development. Zimmerman's articles on the muscle cuirasses of Magna Graecia at the Getty Museum, 1977 and in Swiss collections, 1979, brought attention to the south Italic material, but they did not include any provenanced examples and so tell us little



about their distribution. Zimmerman's research is art historical in approach and examines the development of the musculature as laid out by Hagemann. Guzzo's 1981 study, *Su una corazza dalla <<Magna Graecia>>*, cited 21 examples of muscle cuirass dividing them into two broad categories of long and short types. This typology, however, is flawed because Guzzo has confused a number of Italic anatomical cuirasses for the Greek-style muscle cuirasses. The characteristic differences in these two types of armour will be discussed further in this chapter. Kunze's examination of the Greek armour from Olympia provided the first analysis of a substantial number of muscle cuirasses. Although most of these are from the Archaic period and date before the 5<sup>th</sup> century they do provide a useful comparative source of data to help analyse the south Italic material. The evidence from Olympia was later re-examined by Jarva and included specimens from other Greek sites and depictions on Attic and Corinthian vases (Jarva 1995: 17-32). Jarva also referred to a number of south Italic examples when relevant, providing a much more inclusive analysis than earlier works.

### **3.2. Description and characteristics of the Greek-style muscle cuirass**

The bronze muscle cuirass is one of the most archetypal forms of Greek armour, and was formed from a breast and back plate, moulded in imitation of the male torso's musculature. It was joined at the sides and shoulders by a variety of hinge and ring fastener arrangements. The edges of the cuirass from which the neck, the arms and lower body protruded were rolled around a wire to prevent chaffing and discomfort. The bronze cuirass first appears in Greek representational sources during the 7th century (Jarva 1995: 17-19). The earliest type is commonly known as the bell cuirass, named for the outward flaring bottom edge of the cuirass. They range in height from 40-50cm (Jarva 1995: 24). The musculature of the bell cuirass was incised and highly stylised. The pectoral muscles are represented by two curved lines which are incised or raised on the upper portion of the breastplate. The abdomen is indicated by a rounded protrusion pointing up below the space between the pectorals with an incised line running down its centre. Jarva attributes a date range of 700-500 to the bell cuirass based mainly on comparisons with representational sources and the example found in the warrior burial at Argos (Jarva 1995: 20-21). I am unaware of any examples of the bell cuirass which have

been found in southern Italy, although Jarva mentions a 'scattered find' from Sicily (1995: 20). The bell cuirass, however, has been included here to provide a starting point which illustrates the continuous development of this type of armour in Greece before it was imported into Italy.

The muscle cuirass with realistic anatomy first appears in Greek representational sources at the beginning of the 5<sup>th</sup> century and was probably introduced into Italy shortly after that time through the Greek cities of Magna Graecia. In *Griechische Panzerung*, Hagemann established the way in which the development of the Greek cuirass has been conceptualised, as a progression, from the Archaic bell cuirass to the muscle cuirass of the Classical and Hellenistic periods. Hagemann used the development of anatomy in sculpture as a parallel for advancements in rendering the musculature on the muscle cuirass (Hagemann 1919: 18). The relative maturity of musculature seems to be a sound basis for creating a chronological sequence for this type of armour. Jarva, however, questioned relying on 'muscularity as a typological criterion' as he cites Hagemann himself referring to examples of improved cuirasses that had the 'same plastic anatomical features' from earlier types (Hagemann 1919: 17; Jarva 1995: 18). Indeed, in a south Italic context, the highly stylised musculature found on rectangular anatomical cuirasses, which are dated to the second half of the 4<sup>th</sup> century, is contemporary with the most realistically modelled Greek muscle cuirasses. The stylised musculature found on these Italic cuirasses seems to be a throw back to the earlier bell cuirass. As will be shown, however, the rectangular anatomical cuirass is distinctly different in the way the male torso has been depicted and has no Greek precedent.

The Greek-style muscle cuirass can be classified into two basic types based on their form and size, these are short and long versions. The dimensions of the short cuirass range between 35 to 44cm high and are 33 to 37cm wide. The short variety has a slight downward swell to the bottom edge of the breastplate while the back-plates' lower edge is usually straight. The dimensions of the long cuirass range between 42 to 53cm high, with one example from Ruvo (GC16) at 61cm high (fig.21). The width of this variety ranges from 31.2-42.7cm. Most of the long type cuirasses have a downward curving portion of the breastplate, which covers the lower abdomen. There is usually a corresponding dip along the bottom edge of the back-plate as well. Jarva cites this

feature in Archaic Greek cuirasses as a development in which a separate piece of armour called a *mitre* or belly guard was incorporated into the thorax. This shows a significant advancement from the straight edge of the bell type cuirass (Jarva 1995: 31). It is this downward swell on the bottom edge of the long cuirass which accounts for the difference in size with the short type. Some of the long cuirasses, however, are only marginally longer than the short variety even with the belly guard feature. A long cuirass (GC20) from the ex-Guttmann collection, measures 42cm high, this is only one centimetre taller than the short type example (GC21) from the same collection (fig.22). The variation in long cuirass sizes must be related to the actual size of the wearer. Xenophon places a great amount of emphasis on how the cuirass must be made to fit well, and mentions the high prices people were willing to pay for this (Xenophon *Memorabilia* III.10.9, *Art of Horsemanship* XII.1.3).

Xenophon records a dialogue between Socrates and Pistias the amouner, in which the philosopher asks why he charges so much for his cuirasses. Pistias replies that it is 'because the proportions of mine are better' (Xenophon *Memor.* III.X.9-15). Although this may be an exercise in rhetoric intended to highlight Socrates sound wisdom it does this through a discussion of what were considered the right and proper ways armour should be fitted. Something which Xenophon's 4<sup>th</sup> century audience understood clearly. Pistias exclaims to Socrates that without a proper fit, 'a breastplate is of no use!' As perceived by 4<sup>th</sup> century Greeks 'the good fit is less heavy to wear than the misfit, though both are of the same weight. For the misfit, hanging entirely from the shoulders, or pressing on some other part of the body, proves uncomfortable and irksome; but the good fit, with its weight distributed over the collar bones and shoulder-blades, shoulders, chest, back and belly, may be called an accessory rather than an encumbrance'.

The necklines of most Greek-style muscle cuirasses have a shallow dip towards the chest. The width of the neckline can vary considerably some are quite open while others are very close fitting. Some of the long type cuirasses, however, have a raised collar round the neck, as found on examples (GC2, GC9, GC24, figs.19, 23). It appears to be quite closely fitted with the edges turned outward. The cuirass from tomb 11.X.1935 Canosa, (GC2) has a neck guard which rises 3cm from the breast and back-plate with a diameter of 15cm. The musculature of these cuirasses is refined and well

developed, and is rendered with graceful curves rather than incised or raised lines found on the earlier bell-type cuirasses. The navel is usually inset and the nipples are often attached separately and made of iron or copper. The musculature accentuates the pectorals, abdominal muscles and ribs of a heavily built male torso. On the back plate the spinal column is indicated by a shallow groove, which runs down the centre. A cuirass at the British Museum (GC15) has a back plate which has been formed by two separate pieces joined together along the spine (fig.21). The bottom edges of this cuirass are rolled inwards on one half, while the other has been rolled outward.

The Greek-style muscle cuirass, often associated with hoplites, found wide usage among the elites of many of the Italic peoples. The Etruscans appear to be among the first to adopt the muscle cuirass as is evident from depictions in representational sources from the 7<sup>th</sup> century. A number of actual specimens have also been found in Etruscan tombs of the 5<sup>th</sup> and 4<sup>th</sup> centuries. An example from Orvieto, dated to the second half of the 4<sup>th</sup> century was part of a panoply, which included a Montefortino helmet, round hoplite shield and greaves (Connolly 1981: 100). The Orvieto cuirass is similar to the one depicted in the Francois tomb at Vulci and from approximately the same date. Both of these examples are virtually identical to the types of muscle cuirass being used by the Greeks during the 5<sup>th</sup> and 4<sup>th</sup> centuries.

Hybrid cuirasses, which display both Italic and Greek features in armour design have also been found. One Etruscan example, which shows how Italic concepts in armour making were integrated into Greek forms is the muscle cuirass from the tomb of the warrior at Lanuvium (fig.23). This cuirass is dated to the first half of the 5<sup>th</sup> century and displays musculature that seems somewhat similar to Greek examples of the same period. (Jarva 1995: 30-32). There are however, significant differences with the Greek model in the depiction of the anatomy and the manner in which the two halves of the cuirass are joined at the shoulders. One decorative feature that is distinctively Italic on the Etruscan cuirass is the two embossed collarbones at the top of the breastplate, an anatomical detail that is never found on Greek examples. An Italic technical feature on the Etruscan cuirass is the separate shoulder-plates, approximately 6cm wide, which connect the breastplate to the back-plate by hinges. Greek cuirasses always have the breast and back plate joined directly at the shoulders. The separate shoulder-plates are a



hallmark of Italic armour design and are very similar in pattern to those found on the various pectoral-type armours in other parts of Italy, such as the single and triple-disc cuirasses. These display a clear continuity with traditional types of Italic armour and their inclusion in what appears to be a largely Greek-style cuirass should not be looked upon as a corruption or cheap copy of a Greek original. The Lanuvium cuirass shows the effort that has been made to incorporate familiar features into Greek forms. It is an integration of ideas and technology, which will be examined in greater detail further in this chapter.

### 3.3. Methods of fastening the Greek-style muscle cuirass

Pausanias in his description of the *Ilioupersis* painting by Polygnotos at Delphi states, 'on the altar lies a bronze cuirass. At the present day cuirasses of this form are rare, but they used to be worn in days of old. They were made of two bronze pieces, one fitting the chest and parts about the belly, the other intended to protect the back. They were called *gyala*. One was put on in front, and the other behind; then they were fastened together by buckles' (Pausanias X 26.5; Jarva 1995: 32). It is interesting that Pausanias makes no mention of hinges to fasten the two halves of the cuirass, but it could be that his description is limited to the painting at hand.

The muscle cuirass could be secured together a number of different ways using either ring fasteners, hinges or a combination of the two, where the breast and back plates met at the shoulders and along both sides. Ring fasteners were attached to the cuirass by means of butterfly pins, which were passed partially through a hole in the cuirass and were flattened out on the inside. The rings either had ties or small buckled straps passed through them which would be fastened (Connolly 1981:54-55). Connolly cites a cuirass in the British Museum which has the imprint of a buckle on the bronze armour near the ring fastener (Connolly 1981: 54-55). Hinges were riveted to each half of the cuirass and were joined together with an iron pin. The usual arrangement when hinges were used was to have a pair on each side of the cuirass and one set on each shoulder. In rare instances the cuirass might have a single continuous hinge running down the left side of the breast and back-plates A cuirass from Conversano tomb 10 (GC7) dated 325-300, and another from the former Guttman collection (GC21) have one long continuous hinge

(Connolly 1981:56, 110, Christies 2004: 98, fig.22). Both of these hinges were made from bronze sheet which has been cut into a decorative wave patterns and then riveted to the cuirass.

Some examples use both rings and hinges, which would seem to have been the most efficient method, as the ring fasteners would have alleviated the amount of stress put on the hinges and help prevent them loosening or breaking. An examination of 21 cuirasses of both short and long types, from the current sample of 29 examples show that five different fastening arrangements were used at the shoulders and along the sides, which are as follows:

- 1) On shoulders and sides, both hinges and rings are used
- 2) On shoulders and sides, only rings are used
- 3) On shoulders and sides, only hinges are used
- 4) On shoulders rings are used, on sides hinges and rings are used
- 5) On shoulders rings are used, on sides hinges are used

Of the 21 cuirasses examined, only five examples had both hinges and rings to secure the shoulders and sides (method 1). It is interesting that all five of these cuirasses were of the long type. A total of eight cuirasses made use of only one method for securing both the shoulders and sides; five examples used only ring fasteners (method 2), whereas three had just hinges (method 3). Again, it is worthy of note that the five cuirasses that used only rings were of the short type, while the three examples that were secured by hinges were all of the long variety. This might suggest the long cuirasses, secured by fastening methods 1 and 3 were more expensive, if it can be supposed that rings were cheaper than hinges. On the other cuirasses it can be seen that a compromise was made on the fastening arrangement, whether this was due to cost or some technical motive is difficult to say. Six of these cuirasses had ring fasteners on the shoulders, while both rings and hinges on the sides (method 4). The last two examples had only ring fasteners on the shoulders and only hinges on the sides (method 5). There were also two examples mentioned earlier, which had the long continuous hinge on the left side and two smaller hinges on the right. Both of these long hinged cuirasses had shoulders attached by ring fasteners. What is intriguing about the different fastening arrangements is that 16 of the 21 cuirasses had hinges on the sides, while 18 had rings on the shoulders. This

evidence shows there was a preference for using ring fasteners for the shoulders and hinges for the sides. Only on the five cuirasses, which used ring fasteners exclusively were rings being used to secure the side of the cuirass on their own. While just eight cuirasses make use of hinges for the shoulders, with or without rings.

The straps or cords would have been fastened to hold the cuirass in place and help reduce the amount of strain on the hinges. The predominance of hinges for the sides of the cuirass was probably to guarantee it was fastened securely and ensure close fit. The long continuous hinge probably enabled the warrior to put this piece of armour on without assistance. I am less certain why ring fasteners were preferred for the shoulders. One disadvantage of using hinges at the shoulders, was that it was a single point of contact, and under a greater degree of stress and thus more susceptible to breakage. The use of ring fasteners and ties would have alleviated this problem by providing a more flexible way of securing the portion where the shoulder joins. Perhaps the greater degree of flexibility at the shoulders would have enabled warriors to use their weapons more easily than the rigid hinges allowed. It could also be that ring fasteners were used in preference to hinges at the shoulders so that the cuirass could be put on and taken off more quickly. By leaving the rings tied or buckled at the shoulders the warrior could have slipped the cuirass over his head without having to align hinges – probably a tricky and time consuming task when done alone. From my own experience in wearing flak vests, which were fastened with a zipper, buttons and Velcro, most soldiers preferred to use only the Velcro fastener. This was due to the ease with which the vest could be taken off or opened up when it was hot. Subsequent models of body armour have since done away with zippers and buttons, and now make use of Velcro strips and plastic clips, which are also less likely to break.

The most important consideration in wearing the cuirass was that it was well fitted. Xenophon discusses the importance of a proper fit for the cuirass in his *Art of Horsemanship* (XII.1.3): 'In the first place his breastplate must be made to fit his body. For the well fitting breastplate is supported by the whole body, whereas one that is too loose is supported by the shoulders only, and one that is too tight is rather an encumbrance than a defence . . . As for the pattern of the breastplate, it should be so shaped as not to prevent the wearer from sitting down or stooping'.

### 3.4. *Pteryges* and other features of the muscle-cuirass

Xenophon advises that attached to the cuirass, 'about the abdomen and middle and round that region let the flaps (*pteryges*) be of such material and such size that they will keep out missiles' (Xenophon *Art of Horsemanship* XII.1.3). The *pteryges*, or wings, mentioned by Xenophon are believed to have been strips of leather or perhaps stiffened linen 15-30cm long. They were worn in two or three overlapping rows and appear regularly with the muscle cuirass in Greek representational sources. In some instances *pteryges* are also depicted for protecting the shoulder and upper arm. It is unclear if they were part of a protective under garment or a separate belt of flaps. A cuirass now in a private Swiss collection (GC28) has a very intriguing series of butterfly pins, similar to those used to secure ring fasteners (Zimmermann 1979: 177-184, pl.2,3, fig.23). These pins, however, have no rings attached to them and are found along the edges of the bottom of the cuirass and the armholes. They are clearly designed to secure something which projects beyond the cuirass and *pteryges* seem the most likely thing. But this is the only muscle cuirass which has such features so it could not have been a standard way of fastening *pteryges* to the armour.

In Italy *pteryges* are rarely shown with the muscle cuirass although they are regularly found on linen corselets which are discussed later in this chapter. It would seem that in most instances the Italic peoples preferred to use the muscle cuirass without these protective flaps. Richardson examined 40 bronze statuettes of warriors with muscle cuirasses from Etruria and southern Italy of which only two had *pteryges*. She concluded that this evidence showed 'the popularity in Italy of the uncluttered muscle cuirass during the late classical and early Hellenistic periods' (Richardson 1996: 96). The absence of *pteryges* might have been due to their being regarded as of dubious protective value, or an impediment to mobility.

Xenophon goes on to describe the importance of neck protection on the cuirass: 'Since the neck is one of the vital parts, we hold that a covering should be available for it also, standing up from the breastplate itself and shaped to the neck. For this will serve as an ornament, and at the same time, if properly made, will cover the riders face, when he



pleases, as high as the nose' (Xenophon *Art of Horsemanship* XII.4). This passage is somewhat confusing, in one part Xenophon suggests the neck covering is 'standing up from the breastplate itself and shaped to the neck'. It would seem to describe the raised neck portion or collar found on cuirasses at Canosa (GC5), Hamburg (GC13) and Palermo (GC24) which are all from the second half of the 4<sup>th</sup> century (figs.19, 20). But these raised collars are only 3cm high. Xenophon's passage however, states that if it is properly made, and the rider wishes, it will cover him, 'as high as the nose'. This description sounds as if Xenophon is referring to a separate piece of armour, something like a gorget. There is, as far as I'm aware, no representation or actual find of such a piece of armour from this period. This does not rule out its existence but makes interpretation problematic and illustrates the difficulties of using literary evidence as a descriptive guide to archaeological evidence.

### 3.5. Muscle cuirasses in representational sources:

Compared to other types of armour, especially the triple-disc cuirass, the Greek-style muscle cuirass is rarely depicted in south Italic vase and tomb paintings. Representational sources rarely show any details relating to the hinges and fastenings of the cuirass, but small bronze statuettes sometimes show these and have the benefit of being three-dimensional representations (Richardson 1996: 120). When the cuirass is present it is almost always the long variety and appears mainly in scenes of ritual significance. In Apulian vase paintings for example, it is usually found in scenes within a *naiskos*, or shrine, in which a nude warrior holds the cuirass, or it hangs on the wall behind him. An example at the British Museum dated to 330-310 shows a seated warrior within a *naiskos* holding a muscle cuirass (GR1836.2-24.164). While in another painting of contemporary date the cuirass appears to be suspended from the wall of the shrine as the warrior stands next to his horse (GR1772.3-20.14). Both of these cuirasses are of the long type with the distinctive downward swell on the bottom edge. These cuirasses also appear to have attached shoulder pieces, something which is rarely found in actual examples. A pair of highly decorated bronze shoulder guards at the British museum which were found in the Siris river and are dated 390-340 (Walters 1915: 31; Zimmermann 1979: 180). The guards are decorated in repousse and show a Greek

warrior grasping a defeated Amazon by the hair. An amphora from Canosa, dated 340-320, shows an episode from the *Iliad*: the funeral of Patroclus (Boriello and De Caro 1996: 153). In this scene a muscle cuirass without shoulder guards can be seen among the arms piled on the pyre of the fallen hero. A number of polychrome terracotta figures from Canosa have been found dated to the end of the 4<sup>th</sup> to the beginning of the 3<sup>rd</sup> century showing cavalymen in long type muscle cuirasses and Montefortino helmets (Christies 2002: 99). The armour of the cavalry figurines is quite similar to the cuirass found in the second deposition of tomb 669 at Lavello (GC8) and is of a contemporary date (Bottini and Fresa 1991: 59-61). The frequency with which the muscled cuirass appears in Apulian art and iconography suggests this type of armour was a fairly standardised item of equipment for cavalymen.

In the region of ancient Lucania the muscle cuirass only appears in a few tomb paintings from Paestum. In tomb 28 Andriuolo dated 340-330 the painting shows a warrior in a tunic returning on horseback with a trophy over his shoulder (WP6). Another cuirass appears in tomb 61, at Andriuolo dated 350-340 as part of a frieze with other pieces of the panoply, the helmet, greaves and round hoplite shield (WP10). An interesting detail of this painting is that the cuirass is not painted yellow like other items of bronze armour – suggesting that it might have been made of iron. There is however, no archaeological evidence to support this explanation. In tomb 2, at Sequestra Finanza dated 350-330 a warrior on horseback is wearing a muscle cuirass (WP34). This again reinforces the connection of the muscle cuirass as a type of equipment reserved for cavalymen. Overall however, the triple-disc cuirass is the most common type of armour used by Paestan warriors in tomb paintings and found in burials. Despite the large amount of armour to come out of Paestum (nine triple-disc and three anatomical cuirasses) not a single Greek-style muscle cuirass has been found.

In Campania the muscle cuirass seldom appears in tomb and vase paintings, and most warriors are depicted in the triple-disc or rectangular anatomical cuirass. A rare example is found on a hydria at Wurzburg, dated 330-320, and depicts a standing warrior with a long muscle cuirass, greaves and aspis (Schneider-Herrmann 1996: pl.80). A tomb painting from Nola, dated 330-310, shows the top portion of what may be a muscle cuirass, although it is impossible to be certain because the lower half of the warrior's

body is covered by his shield (Benassai 2002: 197-199). A hydria in the Museum of Fine Arts Boston, dated 330-320, depicts a warrior dressed in the characteristic south Italic short tunic, with bronze belt and triple disc cuirass, who is presumably a Campanian. He faces two warriors who are attired quite differently in longer Greek or Etruscan style tunics, carrying the *aspis* and wearing muscle cuirasses. One of the cuirasses has a straight bottom edge the other dips down slightly (1970.238). The painter of this vase seems keen to accentuate the differences in armour between the pair in muscle cuirasses and the warrior in triple-disc cuirass. Overall the Greek-styled muscle cuirass appears most often in Apulian representational sources and this is corroborated with actual finds of armour. The muscle cuirass is much less evident in Campanian and Lucanian depictions. It is also a type of armour that is most often associated with cavalrymen. This may not be surprising since it is an item of equipment that only wealthy warriors would have been able to afford.

### **3.6. Distribution and chronology of the Greek-style muscle cuirass**

A total of 28 Greek-style muscle cuirasses are listed in this study, but there are probably many more in private collections, which have been labelled as Greek, but in fact have an Italic origin. Those cuirasses which have a provenance more specific than southern Italy or one of its constituent regions number 11 examples (fig.24). Three cuirasses have been attributed to both Canosa and Ruvo. The remaining provenanced examples are single finds from Conversano, Ginosa, Lavello, Metaponto and San Giorgio Lucano. The distribution pattern reveals that all of these cuirasses are from the regions of Puglia and Basilicata, within close proximity of the Greek cities of Taranto and Metaponto. A further five cuirasses, which have no specific site location, are also attributed to Apulia and Basilicata, further reinforcing the evidence from these regions of South-eastern Italy. It seems likely that Italic elites from these areas were more open to adopting Greek-style equipment, or perhaps it was easier to acquire being a piece of armour which had to be specially fitted to the wearer. Representational sources from other regions show that the Greek-style muscle cuirass was used there as well, but it never surpassed the popularity of native Italic types of armour.

Only four cuirasses come from known contexts, which in all cases are burials. These examples are from Canosa, Conversano, Ginosa and Lavello. Sadly, with so few examples from datable contexts there is little that can be said with any certainty about the chronological development of the muscle cuirass in southern Italy. The earliest cuirass is from tomb 13.I.1935 Ginosa, (GC1) and has been dated to the first half of the 5<sup>th</sup> century. The cuirass from tomb 11.X.1935 Canosa (GC2) dates from the first half of the 4<sup>th</sup> century. The latest examples are from tomb 10 Conversano (GC7) and the second deposition of tomb 669 Lavello (GC8) and are both roughly contemporary with a date of 330-300. All of these cuirasses are of the long type and show little significant variation. As will be discussed the Greek-style muscle cuirass had a tremendous influence on south Italic armour design and remained in use in South-eastern Italy for at least two centuries and probably longer.

### **3.7. Description and characteristics of the Italic anatomical cuirasses**

The Italic anatomical cuirass was composed of a breast and back-plate, which had either stylised or realistic anatomical features of the male, and in one instance, a female torso. The breast and back plates were held in place by either the shoulder and side-plates arrangement found on the triple disc cuirasses, or a new type of side-plate which was hinged to the back-plate. This innovation was clearly influenced from the hinges found on Greek-style muscle cuirasses and even mimicked the decorative wave patterns sometimes found on them (fig.25). The term anatomical is used here to differentiate the Italic harness cuirass and prevent confusion with the Greek-style muscle versions. Connolly notes that the Italic anatomical cuirasses 'are often difficult to recognise for they can easily be confused with the normal muscled cuirasses' (Connolly 1986: 117). Indeed, in some instances the musculature of the Italic and Greek-style cuirasses are nearly indistinguishable. A telltale difference is that the Italic cuirass is much shallower than its Greek counterpart and the breast and back-plate are not directly joined. Hence, the attachment fittings on the shoulders and sides of the Italic cuirass are quite different. The Italic anatomical cuirasses have breastplates, which range in size from 29.5 to 37 cm high, by 25 to 30 cm wide. The back-plates are 29.5 to 31 cm high, by 27.5 to 30 cm wide. The dimensions of these cuirasses are too small to match the musculature of a



normal man and are only marginally larger than those of triple-disc cuirasses (Connolly 1986: 118).

### 3.8. Typology of the Italic anatomical cuirass

Connolly's previous typology of the Italic anatomical cuirass was based on a small selection of six cuirasses from old collections, which had no firm provenance or datable context (Connolly 1986: 117-125). From this limited sample he identified four different types of rectangular muscle cuirass. The primary criterion for his typology was the development of the musculature, which was basically the same approach as Hagemann. The present study is based on a sample of 26 cuirasses which have been classified into six different types. My typology differs from Connolly's by including the type of harness fittings, as well as not trying to establish a linear development of the musculature.

**Type 1 Stylised anatomical cuirass (figs.26-28):** There are 13 examples of this type, most are attributed to the second half of the 4<sup>th</sup> century, but only three come from dateable contexts. Two cuirasses from tombs 37 and 40 at Eboli are both dated 340-330 (fig.27). The example from tomb 1 Ruvo is dated 340-300 (fig.28). The musculature of the type 1 is highly stylised with incised and raised details of the torso and back. Connolly believed this type cuirass to be the earliest due to the very stylised nature of the musculature, a look at other types shows this is not necessarily true. In form it shows continuity with the earlier triple-disc cuirass, as both are a type of harness with shoulder and side plates. There is however, a significant development in the size and fastening arrangement of the side-plates. These are now much wider and are secured with hinges, like those found on Greek-style cuirasses, instead of hook clasps. It is often the case that decorative wave patterns cut from bronze sheet were riveted to the sides of the cuirass and side-plates in imitation of those sometimes found on Greek-style muscle cuirasses. The type 1 cuirass is the largest grouping and has a number of variants, which may be the result of being produced in different regions or stylistic changes that occur over time.

**Type 2 Guttman cuirass (fig.29):** This cuirass from the ex-Guttman collection (IC14) has more developed musculature much more in line with the Greek style cuirass, but it still retains the basic form and the large hinged side plates of the type 1 cuirass. There is only one example of this type so far, with no dateable context or provenance more detailed than southern Italy. Stylistically, it would seem this type is later than the type 1.

**Type 3 Paestum cuirass (fig.29):** This example from tomb 2 Gaudio necropolis at Paestum (IC15) has a similar shape to the type 1 and 2 cuirasses, but the type 3 has even more realistic musculature. This example, however, lacks the hinged side plates that are found on the type 1 or 2 cuirasses, instead it has a harness form similar to that of triple-disc cuirasses, as a type of clasp hook survives. It is interesting that this cuirass is dated from 350-340, 20 to 30 years earlier than the two type 1 cuirasses found in tombs at Eboli, which suggests either the attributed dates are incorrect, or perhaps more probably the development of musculature is not a sure indicator of a chronological sequence.

**Type 4 (fig.29):** The musculature of the cuirass is more refined and similar to Hellenistic muscle cuirasses of the later 4<sup>th</sup> century. Details such as the cast and inset nipples follow those of full muscle cuirasses. No side or shoulder plates have been found with this type of cuirass, perhaps suggesting they were held in place by straps alone.  
BM GR1772.3-3.140 a and b.

**Type 5 raised neck cuirass (fig.30):** There are five examples of the type 5 cuirass but only one example from a tomb at Scordia in Sicily (IC19) has a dateable context of 325-300. The musculature of this cuirass is fully developed and the breast and back plates have rounded edges which are not perforated. The hooks and rings are often in the form of coiled snakes. On both the breast and back-plate there is an upward extension to help protect the throat and nape of the neck, similar in function to the collar type neck guards found on the long type Greek-style muscle cuirasses.

**Type 6 Amazon cuirass (fig.31):** This cuirass is from the room tomb at Marcellino near Laus and is dated from 330-320 (IC22). It could actually be classified as a variant of the type 5 cuirass as it is fundamentally identical in form. The musculature and decoration, however, is quite different from the type 5 cuirasses as it represents the anatomy of the female torso. The burial, however, was that of a male (Greco and Guzzo 1992: 30-32). The decorative details of the cuirass include a wide girdle with protomes of a satyr and a gorgon, and a pectoral suspended across the chest all in repousse. The appearance of the cuirass suggests it was probably intended to characterise an Amazon, as it is similar to depictions found on red-figure vases. This type of cuirass brings to mind the cavalry sports helmets of the Roman imperial period, which depict the feminine features and hairstyles thought to be of Amazons. Considering the Amazon cuirass' date and context it is unlikely to have been a piece of sports equipment. It does however, pose an interesting question of why a male warrior would choose to wear armour with the anatomy of a female?

### **3.9. Distribution and chronology of the Italic anatomical cuirass**

The 22 examples of the anatomical cuirasses all appear to date from around the second half of the 4<sup>th</sup> century onwards. The distribution of the rectangular anatomical cuirass seems to be primarily along the coastal regions of southern Italy. A total of 12 cuirasses have provenances more specific than southern Italy or one of its constituent regions (fig.32). Three cuirasses are from Paestum, two each from Eboli and Ruvo, and single examples were found at Campobasso, Cumae, Laos, Scordia and Spoltore. It is interesting that most of these cuirasses come from the western half of southern Italy. The six examples are from what was once Lucania and a single cuirass from Campania. Although only one cuirass has been found in Campania there are a number of depictions of the type 1 cuirass from tomb paintings at Capua and Nola, dated 330-300. Only two cuirasses come from Apulia and both are attributed to Ruvo. In the territory of the Samnites a type 5 cuirass is attributed to Campobasso and a type 1 from Spoltore further north. Only eight cuirasses come from datable contexts, which in every instance is a burial. These examples include three from Paestum, two in Eboli and single finds at Laos, Ruvo and Scordia, which are dated 360-300.

### 3.10. The Significance of Italic and Greek cuirass design: ideology and typology

Connolly states, 'I am convinced that the triple-disc cuirasses owe little or nothing to the single-disc type: they appear to have evolved directly from the type 1 rectangular muscle cuirass' (Connolly 1986: 118). After examining a larger number of these cuirasses I have taken the opposite view to Connolly's sequence of development. I believe that the triple-disc cuirass owes a great deal to the earlier single-disc type cuirasses. Technically, the manner in which the discs were secured by hinged shoulder-plates with hooks show a continuity of development with the triple-disc types. The small size of triple-disc cuirasses have led many to question its value as armour, but it would be wrong to impose our own expectations of what constitutes adequate protection.

During the 7<sup>th</sup> and 6<sup>th</sup> centuries the single-disc cuirass or *kardiophylax* (heart-protector) was the most common form of armour among the Italic peoples. The term 'armour', however, should not be used too strictly when discussing this equipment. It is quite obvious that in practical terms the protection this type of harness provided was very limited so its value must lie elsewhere. It is likely that the single-disc cuirass was as much symbolic as it was functional, it may have been believed that the very act of wearing such a harness imbued the warrior with additional strength, agility or divine protection. The discs are often decorated with anthropomorphic and zoomorphic designs, such as a two-headed fawn, which probably had some deeper significance than just its decorative appeal. The meaning of these images is open to speculation, swiftness, agility and staying alert would have been attributes held in high-regard among peoples whose primary weapon was the javelin. Wearing this harness with a heart-protector could also have denoted status or membership among a certain elite group.

As late as the 2<sup>nd</sup> century the Romans wore a breast-plate, which Polybius said, 'is placed in front of the heart, and called a heart-protector' (*kardiophylax*) (Polybius VI.23). It seems that even though the forms of armour had certainly evolved from the 5<sup>th</sup> and 2<sup>nd</sup> centuries soldiers were still referring to this breastplate as a heart-protector, which was the original concept behind this armour. The Greeks however, refer to the cuirass as an item of equipment which primary purpose was to protect the complete torso. Socrates calls it 'a beautiful invention, for the breastplate covers the parts that need protection without impeding the use of the hands' (Xenophon *memor.* III.X.9-10). The ideology of



what this equipment was expected to protect and how it would function underlies a fundamental difference between Greek and Italic traditions of armour making. The Capestrano warrior statue shows the single-disc harness in its entirety with the seemingly complicated web of straps that suspend two discs on the front and back, and a sword. It is significant that the disc is placed over the heart of the warrior.

The Greek muscle cuirass however, is much less ambiguous and more of what we would expect armour to look like. Even with its aesthetically pleasing design and decoration of male musculature, it is clearly a functional piece of equipment which covers a large part of the torso, thus providing a higher degree of protection. To our modern sensibilities the superiority of the muscle cuirass over the single-disc harness is implicit, and it is with this outlook that Italic armours have been studied. A more culturally sympathetic, yet provocative approach, would be to ask the question, 'was the supposed superiority of the Greek muscle cuirass immediately apparent to the Italic peoples?' The archaeological evidence suggests a more complicated answer than the obvious one.

Connolly believed the triple-disc cuirass an abstraction of the human torso, the upper two discs representing the pectoral muscles the lower one the abdominal (Connolly 1986: 184). It should be noted, however, that the back-plates of this cuirass are also of this design. I am of the opinion that the development of this abstract torso in the triple-disc was inspired by the Greek muscle cuirass. The Italic peoples were certainly influenced by Greek ideas, but this does not mean that they slavishly copied them. Rather, it seems that new ideas were filtered and interpreted through their own existing stylistic forms of representation and then reinterpreted into a new hybrid design. In the case of the triple-disc cuirass the abstraction of the torso was achieved by using discs, a form of armour they were already familiar with in the single-disc cuirass, or heart protector. Instead of an Italic imitation there is a stylised interpretation of the musculature.

I believe the Italic peoples created their own abstract version of the Greek muscle cuirass by putting two discs for pectoral muscles and a third for the abdominal. An example, which reinforces this interpretation, is a triple-disc cuirass from the former Guttmann collection (T34). This cuirass is decorated with collarbones in repousse above

the two upper discs of the breastplate (Born 1993: 74-75). Quite clearly this is an anatomical feature one would expect to find on the representation of a torso. They still retained the manner in which they secured the back and front plates by hinged shoulder plates, supplemented by new side plates. Seen in this light the triple-disc cuirass is a progression from the earlier single-disc variety. Further development and modification in the second half of the 4<sup>th</sup> century eventually led to the appearance of the Italic anatomical cuirass. It is likely that as the Italic peoples became more accustomed to Greek forms of rendering the human body they began to create their own versions of the muscle cuirass. Gradually, the triple disc plates were replaced with rectangular breast and back plates which were embellished with increasingly realistic anatomical features. Although, dated examples show that both types of armour were used concurrently from the middle of the 4<sup>th</sup> to the beginning of the 3<sup>rd</sup> centuries.

A very interesting cuirass in Mainz shows a modified triple-disc cuirass, which has had sections of bronze added on to square off the breast and back plates. Large hinged side plates of the variety found on the type 1 anatomical cuirass have also been attached, including the distinctive wave pattern metalwork found on muscle cuirasses. This composite triple-disc cuirass shows the integration of new ideas and techniques that were modified and adopted to fit Italic forms of armour. It represents a transitional form of cuirass that has either been updated or improved. The earliest versions of the Italic anatomical cuirass appear in the coastal regions of Campania, Lucania and Apulia, which were probably much more open to Hellenic influences. Connolly believed that the stylised musculature on these breastplates was 'the result of Greek influence being transferred from the muscled cuirass. However, equally certainly these cuirasses in an unmuscled form must have originated in the central highlands, for this is undoubtedly a native form' (Connolly 1981: 111). The musculature of the earliest version of the Italic anatomical cuirass, the type 1, is certainly much closer to a muscled torso than the triple-disc cuirass, but it is quite unlike anything found on Greek-style cuirasses of the same period. The distinctive way in which the male torso has been rendered on the Italic anatomical cuirass is worth examining in detail.

Looking first at the breastplate it can be seen that collarbones have been indicated in repousse, as stated earlier this is an anatomical feature that is absent in Greek muscle

cuirasses. The outlines of the pectoral muscles are delineated by a single thick raised line which rises in the centre of the chest at the sternum. The abdominal region is indicated by a rectangular box shape, outlined with a raised border, which has a slight to highly pronounced apex that projects between the pectoral muscles. The stomach muscles are depicted using incised lines, one running down the centre from the sternum to navel this is bisected by two horizontal lines. The navel is rendered with a peculiar incised line pattern around it, which is common to all the type 1 breastplates. It is interesting that some of the type 1 cuirasses lack nipples or have in place of them small metal appliqué decorations. The breastplate at the Royal Armouries in Leeds has a Scylla type figure in place of nipples. On Greek muscle cuirasses nipples are an anatomical feature which are always present.

An examination of the back-plate shows two raised parallel lines, which run up its centre flanking the area of the spine. These are probably intended to represent the dorsal muscles on either side of the spine. Unlike the Greek muscle cuirass there is no depressed groove to indicate the spinal column. The two parallel dorsal lines join with curving lines similar in shape to an upside-down number 2 at the upper portion of the back plate. These shapes quite clearly represent the shoulder blades. An interesting feature which does not seem to relate to any part of the anatomy is a faint semi-circular line that rises from the bottom edge of the back-plate to bisect the two spinal lines at about mid length. There has been no attempt by the armourer to make the musculature appear in a natural way. In contrast, the Greek muscle cuirass is an artistic rendering of the human torso where great effort has been made to depict the musculature as naturally as possible. The Italic version on the other-hand is highly stylised and appears quite artificial, it is a schematic rendering of the torso, which could be easily replicated through its simple design.

### **3.11. Functional aspects of the Italic and Greek-style cuirasses**

There has been much discussion of the protective value of armour but what is also important is the serviceability of this equipment. I refer most specifically to how easily the equipment can be maintained and repaired on campaign, as well as its durability and flexibility on the battlefield. One of the little considered benefits of Italic armour design

was that if its component parts were damaged they could be much more easily repaired or replaced than the larger two-piece muscle cuirasses. One might argue that the muscle cuirass was much more robust and therefore less likely to be damaged. This argument is of course relative and some insight might be gathered from experimentation with replicas of these two armour types in the field. But what cannot be denied is that if the muscled cuirass was badly damaged it could not be as easily or quickly repaired, especially on campaign where proper tools and materials would be harder to acquire.

Xenophon stressed the importance of having a cuirass which is neither too small nor too large, so as to give a proper fit. This is something which would have required some degree of skill and time to manufacture. The Italic cuirass on the other hand required no such exactness. Covering the entire torso was not considered a necessity, only that the breast and back plate protected the most vital areas. We can see from the extra ring links for the side plates that the Italic cuirasses could be easily adjusted to fit different sized warriors. Another difference between the Italic anatomical and the Greek muscle cuirass was overall agility while wearing them. One of Xenophon's concerns with the Greek muscled cuirass is that the right armhole be large enough that it does not interfere with a soldier using his weapons properly. He states, 'the right hand must be raised when the man intends to fling a javelin or strike a blow. Consequently that portion of the breastplate that hinders him in doing that should be removed; and in place of it there should be detachable flaps at the joints, in order that, when the arm is elevated, they may open correspondingly, and may close when it is lowered' (*Art of Horsemanship* XII.6). The popularity of ring fasteners and ties at the shoulders of muscle cuirasses may also be an indication of how an allowance was made for a greater degree of give between the breast and back-plate.

The Italic forms of armour however, needed no such special modifications. The open design and flexibility of this type of cuirass allowed a greater range of movement, making it ideal protection for those employing weapons such as the javelin which required much more fluid movements than the use of the thrusting spear or pike. On horseback the Greek-style muscle cuirasses either had to be shortened or specially modified to accommodate a seated rider by having widely flared bottom edge. This second option must have been very expensive to make and very few examples have been



found. At Bari there is an example of this widely flaring cuirass from Conversano (GC7) dated 325-300. The main tactical considerations seem to have been flexibility and lightness over a more comprehensive and protective form of armour.

### **3.12. The linen or composite corselet**

The so-called linen corselet is a type of armour which first appears in Greek representational sources during the 6th century. Unlike the other types of cuirass examined in this chapter no actual examples of the linen corselet have survived. Evidence for the linen corselet is therefore limited to the few depictions which are found in representational sources. The trouble with having to rely on artistic images is that there is no absolute way to be certain that these actually are linen corselets. The whiteness of the linen is one of the few details to come from literary sources which seem to corroborate the illustrations.

Although the linen corselet had probably been in used in Greece since the late Mycenaean period (Connolly 1981: 58), it was not until the 6<sup>th</sup> century that it became the most widely illustrated form of armour. The linen corselet was used by many peoples in the ancient world representations appear in art from Persia, Anatolia, and Etruria. A painting from the sarcophagus of the Amazons from Tarquinia, circa 325, shows Etruscan hoplites in linen corselets. In Greece, Etruria and Asia Minor it is more accurately called a composite corselet, since many examples seem to have been supplemented by having metal plates or scales sewn onto the fabric (Snodgrass 1999: 90-91). Quite detailed examples appear in sculpture from Etruria, where this was the most commonly depicted type of armour in the 4<sup>th</sup> century. The bronze statue of the Mars of Todi, dated to around 350, is a classic example showing a corselet strengthened by rows of lamellar plates. In southern Italy however, the linen corselets do not appear to have been reinforced with other materials. Perhaps the main concern was retaining the lightness of the corselet. It might also be that these linen corselets covered plates of armour. The iron cuirass from the alleged tomb of Philip II in Verghina is constructed to the same pattern as the linen cuirass, and was probably covered in fabric (Snodgrass 1999: 115,142; Connolly 1981: 58-59). So far, however, this cuirass seems to have been a unique example.

The linen corselet was composed of four panels; two side, a front and a back panel. The right side panel is attached to both the front and back panels, the left side panel is only attached to the back panel. The front panel seems to have been slightly bowed out while the other sections appear flat. Attached to the top of the back panel is a U-shaped portion designed to protect the shoulders and upper back. The shoulder flaps were pulled over and secured by ties to the front panel. Several Greek vase paintings from the 5<sup>th</sup> century show the sequence of how the linen corselet was put on. A black-figure vase painting in Vienna from circa 500 shows a hoplite putting on a linen corselet by fastening the side of it, from the front, while the shoulder flaps stick up (inv.3694). An Attic *lekythos* from Sicily now in the British Museum, depicts a hoplite with his corselet secured around his torso grasping a shoulder flap to bring it down and tie it to the front panel (GR1863.7-28.440). The corselet was wrapped around the torso and under the arms, fastened or tied where the front panel meets the left side panel. Technical details of military equipment, such as fittings, rarely appear in tomb and vase paintings, as it seems it was sufficient to represent the basic shape and decorative details of the armour. A rare exception to this rule is an attic red-figure amphora, circa 460, which shows a hoplite in a highly detailed corselet (Sekunda 2000: 53). Two sets of rivets are visible which laces are tied securing the front and left side panels together.

### 3.13. The linen corselet in south Italic representational sources

Depictions of warriors in the linen corselet are relatively rare in south Italic tomb and vase paintings. Ten examples have been listed which were found in representational sources from Campania, Lucania and Apulia, dating from the end of the 5<sup>th</sup> century to the beginning of the 3<sup>rd</sup> century. The earliest image is from a *pelike* found in the Policoro tomb, dated to the last quarter of the 5<sup>th</sup> century. It depicts Poseidon and an unarmoured attendant with a south Italic bronze belt riding on horseback (Bottini 1993:151-152). Poseidon wears a corselet, which has *pteryges* protecting the upper arms and the lower body. Two horizontal bands of a zig-zag pattern appear as decoration on the upper and lower portions of the corselet. There are also two crossed straps or bands, which run diagonally across the chest, although it is not clear what purpose they served. The corselet is unusual in shape and a portion extends from under the shoulder flaps. At

Paestum there is a painting of a duel from tomb 271/1976 Arcioni necropolis, dated to 380-370 (WP22). One of the duellists wears what appears to be *pteryges* suspended from a belt, but the upper half of the corselet has no shoulder flaps and may in fact be a tunic. The interpretation of this painting is more fully explored in chapter VIII, tunic pattern no.15.

From the necropolis at Lavello comes a *lekythos* which is dated to around 350 inv.334533 (Genti 2001: 48). This painting depicts a cavalryman in a plain linen corselet with two rows of fringed *pteryges*. A krater from Canosa, now at Naples, depicts the funeral of Patroclus and is dated 340-320 (De Caro and Borriello 1996: 152-153). In this scene a highly decorated corselet has been placed on the heroes' funeral pyre with other items of armour. The corselet has two rows of *pteryges* suspended from its bottom edge and a large gorgons' head centred on the front panel between the two shoulder flaps. Two tomb paintings from Capua both dating 340-330 show warriors wearing the linen corselet. The example from tomb 16 San Prisco depicts an infantryman carrying a large *scutum* which obscures most of his armour. The lower portion of the corselet is visible and shows it is white with *pteryges* (Benassai 2002: 181, 208). The other Capuan painting is of a cavalryman in a white linen corselet riding triumphantly over a fallen enemy (Benassai 2002: 183-185). The scene closely resembles the format found on Greek funeral stele of the 5<sup>th</sup> and 4<sup>th</sup> centuries, but aside from the linen corselet the warriors are attired in south Italic equipment. The cavalryman's corselet has a wide, dark, horizontal band running across the middle of the front panel and *pteryges* are visible.

At Paestum, in tomb 114 Andriuolo, is the painting of a cavalryman standing next to his horse, dated 330-320 (WP20). The cavalryman has a plain white corselet with what appears to be a bronze belt worn over the armour. This is highly unusual and it is difficult to imagine one of these belts being worn around such armour considering its bulkiness. Another painting from Paestum in tomb 4/1971 Andriuolo depicts a duel between near identically equipped warriors and is dated 320-300 (WP7). The painting is in a poor state of preservation but it is possible to discern some details of their white linen corselets. Both corselets are decorated with horizontal bands of dots and lines and have *pteryges*. These corselets appear to be intricately detailed and the *pteryges* are depicted

flapping about individually through the action of the warriors. The equipment of these two warriors seems more Greek than Italic and as duellists they may represent prisoners of war. An Apulian *krater* at the British Museum, dated to circa 310 depicts a cavalryman standing next to his horse in a *naiskos*. This scene is quite similar to the Paestum example from tomb 114 and is an iconographic image borrowed from Greek funeral stele. The cavalryman's corselet is decorated and has wide shoulder flaps but no *pteryges*. The final example is a tomb painting from Gnathia dated to the first quarter of the 3<sup>rd</sup> century possibly contemporary with the Pyrrhic war. This corselet is intricately detailed with coloured patterned bands of red, white, blue and yellow. A gorgons' head is centred between the shoulder flaps, which themselves are adorned with Nike figures, (WP45). This painting shows how highly decorated and colourful these corselets could have been.

The few representations of south Italic warriors in linen corselets are quite similar to those found in Greek funeral iconography of the 5<sup>th</sup> and 4<sup>th</sup> centuries. This might suggest these are merely copies of Greek examples, but the linen corselet is often integrated with other elements of south Italic panoply, such as Samno-Attic and Apulo-Corinthian helmets, the scutum and in one example a bronze belt. Although not as common as the triple-disc or Italic anatomical cuirasses the linen corselet appears to have found limited use among the south Italic peoples of Campania, Lucania and Apulia before and beyond the 4<sup>th</sup> century. It is interesting that most of these depictions show the linen corselet being used by cavalymen. Schneider-Herrmann has attributed the linen corselet to the Samnites, but this is a misinterpretation of Livy's account of the Samnite linen legion, in which warriors were dressed in linen tunics (Livy IX.40.1-4, Schneider-Herrmann 1996: 49).

### 3.14. Functional aspects of the linen corselet:

The linen cuirass was made from many layers of linen glued together to form a stiff shirt about 0.5cm thick. Connolly states, 'A few years ago I made a copy of one of these cuirasses. It was difficult to put on because of its stiffness, but once one had got used to it, it was quite comfortable and easy to move about in. These cuirasses were often made in several pieces and the *pteryges* were sometimes detachable' (Connolly



1981: 58). The example made by Connolly had no metal plates and weighed 3.6kg. Some indication of the flexibility of linen cuirasses can be perceived from an iconographic image that often appears on Etruscan funerary sarcophagi, which depicts two hoplites in battle. The defeated hoplite is usually equipped in a bronze muscle cuirass, while the other is in a linen corselet. The warrior in the linen corselet is shown with his torso twisting as he grabs his adversary by the throat (*Christies* 2004: 111). The linen corselet remained in use among the Italic peoples well into the 3<sup>rd</sup> century and perhaps beyond. It seems to have been retained by officers into the late republican period. A figure often interpreted as a tribune appears on the Ahenobarbus altar and is shown wearing a linen type corselet (Connolly 1981: 214). It is interesting that the shoulder guards of Roman soldier's mail armour in the Aemilius Paullus monument are the same shape as those found on earlier linen cuirasses.

It is difficult to say what degree of protection the linen corselet offered. Pausanias in comparing Sarmatian scale armour and Greek armour states, 'Linen corselets, on the other hand, are not so serviceable in battle, for they yield to the thrust of iron; but they are useful to huntsmen, for the teeth of lions and leopards break off short in them. Linen corselets may be seen dedicated in various sanctuaries, particularly at Gryneum . . .' (Pausanias I.21.6-7, trans. J.G. Frazer, 1965). Pausanias comments regarding the serviceability of linen corselets implies that this type of armour is no longer used, as he refers his readers to 'various sanctuaries' where they are on display as trophies. Undoubtedly, when the linen cuirass was in use its key advantages would have been its lightness and flexibility compared to the heavier bronze muscle cuirass. This probably explains its widespread popularity throughout Greece. In Italy however, there were already lighter forms of armour in use, such as the triple-disc and anatomical cuirasses, which were probably just as effective. Thus the Greek linen corselet made little impact on the south Italic peoples.

## **Chapter IV: Greaves and other forms of leg protection**

### **4.1. South Italic leg armour**

This chapter examines greaves and other forms of leg protection that were part of the south Italic panoply. Bronze greaves were modelled closely on the shape and contours of the lower right and left legs and seem to have been adopted directly from Greek prototypes. Warriors are depicted wearing greaves in iconographic sources, although there is regional variation in the percentages shown using them. Greaves are mentioned in literary sources as part of the Samnite panoply and as trophies (Livy IX.40). A more problematic item of equipment is the so-called ankle guard. This is a little studied and even less understood piece of armour for which there seems to be no artistic representations or literary references. Analysis of the ankle guard is therefore limited to the archaeological evidence and any inferences that can be drawn from it. Modern interpretations of how this item of armour was used vary considerably and will be discussed in detail later. Finally, bronze foot guards are examined. These are a relatively rare piece of equipment in south Italic contexts and were adopted from the Greeks.

### **4.2. Greaves in representational sources:**

South Italic warriors wearing greaves appear in tomb and vase paintings from the end of the 5<sup>th</sup> to the beginning of the 3<sup>rd</sup> centuries. The greaves are often depicted as a lozenge shape sometimes there is a slight bump at where the kneecap would be or a single line to indicate the contour of the calf. Only very rarely are there enough details depicted to associate the image with any actual types. In tomb paintings greaves are painted the same colour yellow as helmets, belts, cuirasses and other items of bronze armour. It is evident from the iconographic evidence that not all warriors were equipped with greaves. A study in the percentage of warriors with greaves on 4<sup>th</sup> century Campanian, Apulian and Lucanian red-figure vases has revealed some interesting results. These vases represent warriors in a variety of activities ranging from leave-taking and ritual scenes to combat and duels. It should be noted that warriors are depicted on Campanian vases far more often than on those of Apulian or Lucanian manufacture. A total of 59 Campanian vases were examined, in which 89 warriors were depicted, 28 of these were equipped with greaves (Schneider-Herrmann 1996; Trendall 1967). This

count shows approximately 1/3 of Campanian warriors with greaves. While this can hardly be taken as solid evidence for actual percentages that were used it might reflect views of which items of armour were desirable and how high status warriors were equipped. In contrast to the numbers of greaves depicted on Campanian vases very few warriors on contemporary Apulian and Lucanian vases are equipped with them. A total of 16 Apulian vases depicting 32 warriors showed none of them equipped with greaves (Trendall and Cambitoglou 1978), while the seven Lucanian vases showing 19 warriors had only one example wearing greaves (Schneider-Herrmann 1996). It is surprising that so few warriors are depicted with greaves on Apulian and Lucanian vases when such a large number of actual examples come from tombs within these regions. The discrepancy must be some type of artistic convention, where greaves were regarded as superfluous to the iconographic image of the warrior.

Tomb paintings from Paestum however, present quite a different image from that found on Lucanian vases. Here, a total of 32 tomb paintings showed depictions of 65 warriors: 37 with greaves and 28 without (Pontrandolfo and Rouveret 1992). The difference in the number of warriors wearing greaves on vases and those found in tomb paintings is striking and is probably related to the context in which they were rendered. As mentioned earlier, the iconography of tomb paintings most often portrays warriors as either duellists in funeral games or as warriors on horseback returning from battle. It is interesting that warriors engaged in these activities were equipped differently. From the 37 warriors depicted with greaves, 30 of these were duellists. While of the 14 cavalymen, often shown returning home trophies, only three were wearing greaves. There are also a further 10 warriors without greaves who are shown engaged in hunting, battles or as armed attendants. Four other paintings showed greaves displayed as part of a frieze of arms. The iconography of Paestan paintings shows an idealised image from elite burials, where the majority of warriors have greaves. But there is still a division of which types of warriors are equipped this way. Clearly the artists thought it more appropriate that duellists, who are all infantrymen, should be depicted with greaves, while the cavalymen, on the other hand, are portrayed mostly without greaves. This is probably an accurate reflection of common practice.

The greaves were one of the first items of the panoply that the warrior would put on when equipping himself for battle. A number of Campanian vases depict arming scenes in which a warrior is putting on his greaves (fig.34). The iconography of these scenes often reveals details and insights into the use of greaves that are not readily apparent from studying the equipment alone. A vase at Naples, dated 350-320, shows a warrior with his right leg upon a rock putting on his greaves (Schneider-Herrmann 1996: 80-85, fig.34.2). Both of his hands are positioned on either side of the greave, presumably to push it outwards with the thumbs to allow it to snap around the lower leg. Another Campanian vase at Naples, dated 340-330, shows the warrior's hands at the top edge of the greave as if tugging it upwards (Trendall 1967: 156(278), fig.34.4). A vase from the British Museum, dated 350-320, depicts the warrior grasping the lower half of his greave with his foot braced upon a rock, presumably adjusting its fit (inv.GR.1953.4-29.1, fig.34.3). An Attic vase in Rome dated to the 6<sup>th</sup> century shows an arming scene where the warrior grasps the front of the greave by the knee-cap with the left hand, while pushing down on the back of it with the right (Schneider-Herrmann 1996: pl.100, fig.34.1). All of these depictions suggest that putting on the greave required a certain degree of adjustment to fit and secure it properly. The artist, knowingly or not, has imparted a realistic detail, which is typical of soldiers putting on any item of kit – equipment is not simply strapped on to the body, it must be adjusted to the personal satisfaction and comfort of the wearer.

#### **4.3. Who used greaves in southern Italy?**

The inclusion of greaves as part of the warriors' panoply depended largely upon an individual, his wealth and role in battle. In Rome, the Servian reforms of the 6<sup>th</sup> century organised the army into five classes of troops, who were equipped based on the capital value of their property. Only the warriors of the two wealthiest classes were expected to equip themselves with greaves (Livy I.43). Urban centres in southern Italy such as Capua, Nola, Ruvo and Paestum might also have organised their military forces in a similar manner to the Romans, on the basis of wealth and property, therefore, limiting the use of greaves to only a wealthy percentage of the population. Greaves might also be worn to express status, although in most communities this was closely tied to wealth. It is interesting that of the 40 Paestan tombs cited by Pontrandolfo and



Rouveret 1992, which had weapons, belts or other items of military equipment, only one burial contained a set of greaves (although a total of six pairs of greaves are known from Paestum). The paucity of evidence cannot be indicative of actual practice as these tombs represent warriors from the upper strata of society who would have had the wealth to obtain greaves. This may perhaps be indicative that these were cavalrymen and therefore less likely to use greaves. The warrior's return fresco from Nola, dated 330-300 shows two infantrymen with greaves and three cavalrymen without them. A fragment of a tomb painting from Cumae shows a scene in which many greaved legs are marching (Benassai 2001: 217). Both of these paintings emphasise that in most cases infantrymen are equipped with greaves.

The absence of greaves is presumably related to being able to ride unhindered. Cavalrymen however, do appear with greaves on rare occasions, such as tombs 114 and 58 from the Andriuolo necropolis in Paestum (WP3 and WP20, figs.84, 86). Perhaps these depictions show the warrior mounted as a means of transport and not how he intended to fight. Spurs are sometimes found with panoplies, which include greaves, such as at the room tomb at Laos and tomb 669II at Lavello (Greco and Guzzo 1992: 30-31; Bottini and Fresa 1991: 58-61). This, however, is not certain proof that the greaves were worn with the spurs. Representations of warriors wearing spurs from tomb paintings show them wrapped around the ankle with the metal point on the inside of the leg, not on the heel. The tomb of the warrior's return from Nola depicts cavalrymen with a dark brown band just above the ankles, and another painting of a horseman from Capua shows the same type of band with a point protruding inwards (Schneider-Herrmann 1996: pl.47). The use of spurs in this manner would have prevented wearing greaves while riding. Xenophon, while describing protective equipment for a cavalryman suggests the legs, 'can be guarded if boots made of shoe-leather are worn: there will thus be armour for the shins and covering for the feet at the same time' (*Art of Horsemanship* XII.10). In Apulia, cavalrymen are often depicted on red-figure vases with high-laced boots which seem similar to those suggested by Xenophon, as a protective measure.

Livy describes Samnite warriors in 310 being equipped with only one greave on the left (leading) leg (IX.40). There is however, no archaeological or representational evidence from the 4<sup>th</sup> century which shows warriors equipped with a single greave.

When greaves are found in tombs they are always in pairs, and representational evidence from the adjacent regions of Campania and Lucania all show warriors using two if they use them at all. Sekunda cites a 4<sup>th</sup> century cist from Praeneste in Berlin, which shows a warrior equipped with a *scutum* and single greave. He states this warrior is presumably a Samnite and, 'is highly important in providing archaeological evidence to support the contention of Livy and others that the Samnites fought with a single greave' (Sekunda 1995: 36). I am dubious of the attribution of Samnite to this lone example from outside of southern Italy. Livy's 1<sup>st</sup> century description of a 4<sup>th</sup> century south Italic warrior seems to reflect the current equipment of the class of gladiator known as the Samnite during his own time, who was equipped with a single greave on the left leg. The earliest representation of this practice from southern Italy comes from a relief sculpture in Amiternum, near Aquila, which depicts two warriors and their respective spear bearers engaged in a duel. The sculpture dates from the 1<sup>st</sup> century BC and shows warriors who are equipped in a manner that is similar to the Samnites described by Livy and are therefore probably gladiators (Connolly 2003: 71-73).

#### 4.4. The protective value of greaves

Greaves were normally held in place by the elasticity of the bronze. Some examples, however, also had two holes in the back of the greave or a pair of ring fasteners with which ties or straps could be used to provide a more secure fit. Many sets of greaves have perforations around the edges for a lining to be secured in place to prevent chaffing. It is also probable that the greave, like most other items of metal armour, would have had some sort of padded backing to increase the protective value of the bronze by giving it more resilience. Evidence from red-figure vases also show that sometimes a garter or padding was worn around the ankle, perhaps to lessen the effect of the entire weight of the greave being placed on the instep of the foot. It would have been essential that the greave fit around the leg snugly if it was to provide effective protection and not hinder the warrior while moving.

South Italic tomb and vase paintings show fighting scenes in which the amount of leg wounds are disproportionately higher than other parts of the body. Individual warriors are sometimes depicted with multiple leg wounds, often with javelins protruding from or impaling the limb. Two paintings from Paestum both dated 370-360, tombs 90

and 1937 Andriuolo, depict warriors with javelins and spears impaling their greaves, (WP4 and WP5). This evidence shows that the exposed leg was purposely targeted in an effort to incapacitate the enemy. A recurrent iconographic image is that of the triumphant warrior, who is about to strike an adversary who has fallen to a kneeling position, his leg pierced by a javelin. In a painting from Paestum, tomb 11/1967 Vecchia di Agropoli dated 360-350, a warrior has fallen to one knee his leg pierced by a javelin (WP24, fig.87). A similar scene is depicted on a Campanian krater in which a cavalryman has dismounted to kill a fallen warrior whose leg is impaled by a javelin through his greave (Trendall 1967: 157(282)). All of these scenes emphasise the vulnerability of the lower leg to throwing and thrusting weapons.

The most commonly depicted shield in south Italic representational sources is the *aspis*, which normally covered the body from below the chin to the top of the knee, leaving the lower leg especially vulnerable to attack. The use of greaves helped to provide the warrior with some protection for the lower legs. The poet Alkaios specifically refers to greaves as a barrier against missiles (frag.54). It may therefore seem odd that the average thickness of a greave is 1 to 0.5mm, although the edges of some examples could be up to 2mm thick (Jarva 1995: 141). This seems quite thin for an item of armour, but an important consideration of the greave's design would have been its weight. Unlike the cuirass in which the weight could be distributed between the shoulders and hips, the limb alone would have bear the burden of wearing greaves. Subsequently, if they were too thick and heavy the warrior would have rapidly tired and slowed significantly. A significant technological development in the manufacture of greaves was the increasing thinness of the bronze. It is clear that armourers sought a compromise between providing a lightweight greave and one which could still offer adequate protection for the legs.

It can be seen from the representational evidence that warriors did not expect greaves to make them impervious from throwing and thrusting weapons. A Paestan tomb painting from tomb 1 Sequestro Finanza, dated 370-360, depicts a warrior who has had one greave pierced by a javelin and another by a thrusting spear (WP32). A similar painting from tomb 7, Gaudo, shows the warrior's greaves being impaled by spears and javelins (WP25). An unprovenanced pair of type 4 spiral greaves from the ex-Guttmann

collection (G40) which are quite likely to have come from southern Italy, show repairs that had been made to the right greave. At the top and bottom edges of this greave are two small scraps of bronze which have been riveted over cracks. It is possible these were made from the stress of opening the greave wide to slip it on. This is less likely to be the explanation for a larger, third repair in the centre of the greave that is covered by a rectangular piece of bronze 7.5 by 3cm, which was probably pierced in combat. The paintings and archaeological evidence indicate that if these weapons hit with their full velocity they had the capability of not only penetrating the greaves, but of impaling the limb entirely. The defensive value of the greave was partly in its design. The curving shape would have helped to deflect the full force of most weapon impacts, protecting the leg from all but the most accurate and powerful blows. The value of the greave as armour was also partially psychological as some leg protection was better than none at all.

#### **4.5. The typology of the greave**

Kunze's study of the Greek armour found at Olympia classified greaves into four types based on the examination of around 250 examples dating from the 8<sup>th</sup> to the 5<sup>th</sup> centuries (1991: 20-21). Greaves were differentiated on the basis of stylistic design and the increasing realism of the lower leg's musculature. Jarva, who examined the evidence from Olympia and other Greek sites of the Archaic period, was largely in agreement with Kunze's classification, but expanded it further into five different types: prototype, transitional, calf notch, spiral, and anatomical (1995: 84-100). I have found that Jarva's classification for types I-V, accurately reflects the development of greaves in southern Italy as well, and have therefore used his typology. Jarva, however, limited his study to the anatomical greave of the 5<sup>th</sup> century. In southern Italy, greaves continue to be found in tombs dating all the way through the 4<sup>th</sup> century and show a continuum of development with the anatomical type. I have therefore introduced a sixth type of greave, descriptively termed the smooth variety. My typology also uses Jarva's analysis of the Greek material from Olympia as a comparative model. It suggests there was a chronological time lag between the development and use of greaves in Greece and their appearance in Italy.



**Type 1 (prototype):** this type of greave is identified mainly by its shortness, averaging between 33 and 36cm, which in most cases would have left the knee unprotected. The form of the greave was rounded off at the top with a smooth body although it might have an incised line outlining the calf muscle. A set of greaves found at Montedoro (G35) measured 33.4cm high, and another once on the market in New York (G27) was 33cm. The date range for the prototype greave in Greece is from the 8<sup>th</sup> to the 7<sup>th</sup> centuries (Jarva 1995: 85-88). In southern Italy, however, the greaves from Montedoro have been dated 600-500, a century later than the dates given by Jarva for this type.

**Type 2 (transitional):** these greaves were still relatively short, but usually measured over 36cm in height. The top and bottom of the greave are characterized by more rounded and acute angles than the type 1, but are still somewhat plain in appearance. They first appear about the middle of the 7<sup>th</sup> century in Greece (Jarva 1995: 88-90). As far as I am aware there is no example of the transitional type greave from southern Italy. An Apulo-Corinthian helmet in the Royal Armouries at Torino is decorated with two incised warriors who appear to be wearing these type greaves, but this is far from reliable evidence (*Arma* 2002: 94-95).

**Type 3 (calf notch):** the most important innovation of the calf notch group is that it is the first type of greave designed to cover the knee entirely. Although not elaborately decorated the calf notch type has a more refined rendering of the shin and the calf muscle, which gives the grouping its name. Jarva likens this decorative feature to a 'downward pointing flame-like depression on the inner leg around the calf muscle' (1995: 92). Almost all of the type 3 greaves have perforations along the edges for a lining and backing. There are two variants of this type identified by Jarva from the examples found at Olympia. Variant 3A is characterised by a very simple curving calf notch depression, while 3B is differentiated by a more elaborate curving design with a slight ridge running down the centre. The number of 3A calf notch greaves from Olympia is estimated at around 60, while there are 20 examples of the 3B variation. In southern Italy only seven examples of the type 3 have been found and all of these are from burials when the context is known (fig.37).

The length of most calf notch greaves from Olympia measure from 39 to 44cm, but some examples have been found which exceed 47cm. The measurements of the Italian examples are at the upper end of the range cited by Jarva for the Greek greaves. The greaves from the tomb of the warrior at Villamagna (G31) measured 46 cm high, while those from Campovalano (G17) reached 47.5 cm. Greek examples of the type 3 greaves have been dated from the late 7<sup>th</sup> century to the middle of the 6<sup>th</sup> century by their archaeological context and Jarva's perforation dating technique (Jarva 1995: 90-93). Most of the Italic greaves are of a similar date range, but some examples appear to be much later, such as the pair from Villamagna which are dated 450-425. This example is a full century later than the dates attributed by Jarva.

**Type 4 (spiral):** the spiral greave takes its name from the very elaborate embossed rendering of the calf muscle. Jarva divides this group into three sub-variants based on the way in which the spiral is modelled. These are designated V, S and club variants (1995: 93). The kneecap of the greave is very pronounced and is portrayed in a highly stylised and decorative manner. A feature found on all variants of this type is a distinctive embossed arch that rises above the kneecap and is separated into two portions in the centre. Other examples may also include decorative features such as gorgon heads in place of the kneecap. An example attributed to Ruvo, at the British museum (G20) is embellished with a gorgon that is running. In some of the more elaborate examples the spirals terminate in the heads of serpents, such as the pair of greaves from Ginosa (G11) (fig.36).

An important technical feature of the spiral greave is that the bronze sheet from which it was made has been rolled much thinner than in previous types. This would have given the greave a greater degree of elasticity and reduced its weight significantly (Jarva 1995: 93-96). Although I have not weighed the various types of greaves, a detail of armour, which is unfortunately seldom recorded, I've handled many examples of each type. While examining the ex-Guttmann collection I had the opportunity to look at several varieties of greaves at the same time. There is quite clearly a difference between the heavier, very solid, and older calf notch and transitional types and the lighter, more refined spiral and anatomical examples.

A total of 12 examples of the spiral type have been found in southern Italy. Most of the type 4 greaves appear to be perforated along the edges. Some specimens have a pair of holes behind the calf muscle for a cord to tie the greave more securely. The example from Cumae (G1) has had two sets of rings attached by rivets to the upper and lower edges at the back of the greave for an additional means of keeping them fastened (fig.35). Type 4 greaves from Olympia average in length between 42-44cm. The examples from southern Italy are of comparable measurements, although some are slightly shorter. A greave from Ruvo (G9) and a pair from Braida di Vaglio, G15 are 40cm, while another set from the ex-Guttmann collection (G38) are only 38.7cm.

The Olympian greaves are dated from around 570 to 500, based on stratigraphy and stylistic comparison of decorative motifs with sculptural evidence (Jarva 1995: 93-95). The south Italic examples, which can be dated from tomb contexts, offer quite a different date range. The earliest type 4 greaves are from tomb 107, Braida di Vaglio, (G15) and can be dated from 500-480 at the very end of the Greek chronology. Two more sets of greaves from Ginosa (G11) and Pisticci (G42) both date from 450-400. While the pair of greaves found in tomb 174 from Paestum (G5) is dated 390-380. The Paestan tomb represents something of a peculiarity as the individual buried here was around 60 years of age and other items of his panoply, such as his Chalcidian helmet seem quite old fashioned for the first decades of the 4<sup>th</sup> century (Cipriani 2000: 206-209). The warrior's weapons and body armour, however, were quite up to date. Nevertheless, the type 4 spiral greave begins to appear in south Italic tombs as it was falling out of use in Greece at the end of the 6<sup>th</sup> to the beginning of the 5<sup>th</sup> century and continues all the way to the first half of the 4<sup>th</sup> century. This date may even be pushed further to the middle of the 4<sup>th</sup> century if the authenticity of the panoply from Cumae (G1) can be trusted (discussed later in this chapter).

**Type 5 (anatomical):** these greaves are defined by their natural rendering of the musculature of the leg and kneecap. A total of 17 examples of the type 5 anatomical greaves are found in southern Italy. Although the anatomy of the type 5 becomes increasingly accurate they sometimes display features related to the type 4 greave. A pair of greaves from tomb 164, Paestum (G4) while displaying realistic rendering of the lower

leg still retain the distinctive embossed arch above the kneecap found on the type 4 greaves (fig.35). These stylised features from the type 4 greaves become gradually softened and melded into the anatomical features of the type 5. Another distinctive feature of this type is the pear-shaped kneecap, which in some later versions appears as a downward pointing chevron shape, as exhibited in a pair from the ex-Guttmann collection (G37, fig.37).

A major technical development of the anatomical type was that they were much thinner than all previous types, which gave the bronze greater elasticity without sacrificing strength. This enabled the armourer to achieve not only a high degree of realism in the decorative musculature, but had the functional benefit of being able to fit the greave to the leg much better than before. Very few examples of this type have perforations most often there are incised lines along the edges of the greave. These incisions are probably meant to imitate the lining that was present along the edges of earlier types of greave. Example (G12) from Laos, has an incised centimetre wide band, which is further enhanced by two lines along its upper and lower edges.

Anatomical greaves from Olympia range from 43-47cm in length. A number of inscribed finds from Olympia, found in filled up wells, could be attributed to specific battles and are dated from the last quarter of the 6<sup>th</sup> to the middle of the 5<sup>th</sup> century (Jarva 1995: 96-97). These greaves are all dated to the 4<sup>th</sup> century, much later than their Greek counterparts. The greaves from tomb 11 Conversano (G28) and tomb 164 Paestum (G4) are the earliest dating 400-350 and 380-370 respectively. The majority of type 5 greaves date from the middle of the 4<sup>th</sup> century: Tomb 2/1957 Paestum (G6) is attributed to 360-350, while examples (G28) Conversano, (G10) Canosa, (G7) and (G8) from Paestum all date from around 350. The very latest dated examples come from the room tomb at Laos (G12) and are attributed to 330-320. Once again it appears that the south Italic peoples begin to adopt the anatomical greave as it falls out of use in Greece. Jarva's typology ends with the anatomical type but in southern Italy there is a continued development to a sixth form of greaves.

**Type 6 (smooth):** these greaves are characterised by the musculature becoming less defined and gradually fading to become an almost smooth surface. The type 6 greave can



sometimes be mistaken for the type 5 anatomical as there are many similarities and differentiation may be a matter of how muted the anatomical greaves features are. In most examples the general shape of the leg is followed but anatomical features are only faintly hinted at. The top portion of the greave is sometimes rounded off presenting a lozenge shape and often has a backward curve, which cups the area around the kneecap. The greaves from tomb 37 Eboli (G13) clearly display these features (fig.36). Type 6 greaves follow the trend from the type 5 in having no perforations. These greaves have holes at the back of the calves for fastening ties on. The greaves found at Pietrabbondante have no perforations and appear exceedingly smooth, but they also seem to be heavily reconstructed (fig.36).

#### **4.6. The distribution and chronology of greaves**

A total of 44 pairs or individual greaves have been analysed in the present study. Only 28 of these have a provenance more specific than southern Italy or one of its constituent regions (fig.38). Six pairs of greaves are from Paestum, and two sets each come from Lavello and Ruvo, while the remaining 18 sites are single finds. A total of 19 pairs of greaves come from dateable contexts, which in all cases are tombs except for the set found in the sanctuary at Pietrabbondante. Of those with dated contexts five pairs are from Paestum, two from Lavello with individual sets from Braida di Vaglio, Banzi, Campovalano, Canosa, Conversano, Eboli, Ginosa, Laos, Pisticci, Roccapide and Villamagna. The distribution of greaves seems to be divided largely between sites in Lucania and Apulia. Most of the Lucanian examples, however, originate from a single site, Paestum. The pair of greaves uncovered at Pietrabbondante in Samnite territory, come from a sanctuary where other items of armour and weapons were found. This equipment probably represents of trophies taken from defeated enemies, and so may not reflect the equipment used in this area.

Jarva used a very interesting technique for dating greaves by the perforations on the armour the basic premise is that earlier greaves had wider perforations than later ones (1995: 65-72). If this method is reliable and accurate it might also apply to Italic bronze belts and cuirasses which are also perforated. In general earlier pieces of armour often do have wider perforations than later ones, but I would be hesitant to use this as a tool for

attributing dates. In some instances, however, the exact opposite can be true. The perforations for a type 4 spiral greave from Ruvo (G9) dated 480-400 are 1mm apart. While those for a pair of type 5 anatomical greaves from Paestum (G4) dated 380-370 are between 2-3mm apart. If these greaves had been dated relying on the spacing of perforations it might seem that example (G4) was much earlier. Jarva's greaves are all dated from the late 8<sup>th</sup> to the early 5<sup>th</sup> centuries and are drawn mostly from finds excavated at Olympia. The attributed dates given to these greaves are based mostly on stylistic changes, comparison with representational sources, and perforation patterns. On occasion equipment was found in the fill of wells which allowed a date of deposition to be determined stratigraphically. The Italic evidence, while using comparative analysis of stylistic changes and iconographic images, has the added benefit of being found in burials which can be dated quite closely by ceramics. The dates derived from these burials often conflict with those given by Jarva, sometimes by as much as 150 years. Jarva for example dates the spiral group from the middle to late 6<sup>th</sup> century, yet in tomb 174, Gaudo necropolis at Paestum, a pair of spiral type greaves was found dated to the beginning of the 4<sup>th</sup> century (G5). It is not easy to reconcile such varied dates, yet this leads to some very interesting questions, how long could pieces of armour remain in use? And might older styles of equipment be retained longer in certain regions?

#### **4.7. The so-called 'ankle guard'**

Perhaps one of the most intriguing and enigmatic pieces of equipment from the south Italic warrior's panoply is the so-called 'ankle guard'. This item of armour has long been neglected or ignored altogether by those who have studied ancient military equipment. Currently, the prevalent view is that they are ankle-guards (Snodgrass 1999: 92-93; Connolly 1981: 108-112; Jarva 1995:103-105). Jarva provides the most in-depth discussion of the Italic 'ankle-guard', which he includes as an ancillary section to his analysis of Greek ankle guards. Although Jarva felt these guards 'may be non-Greek burial finds from southern Italy' he believed 'they formed a continuation of the archaic Greek ankle-guards' (1995:103-4). He cites their association with the Italic Apulo-Corinthian helmet as evidence of their derivation from Greek prototypes, and classifies both as having 'essentially lost their original typological and functional character, in the

case of the ankle guard their great height would hinder movement' (1995:104).

Snodgrass reiterates this attitude regarding the 'anti-functional' aspects of this 'debased armour' (Snodgrass 1999:128). Jarva goes on to suggest that the south Italic ankle-guards lingered on as symbolic reminders of the Achilles' heel story and, 'were intended to protect a small but vulnerable place and at the same time to give heroic properties to their wearers' (1995: 105).

I have a problem with Jarva's interpretation of the Italic evidence; while it presents some interesting ideas about how forms of armour might take on a purely ritual role he does not entertain the possibility that these so-called ankle guards developed outside the influence of Greek military equipment design. Many items of Italic equipment, such as the Apulo-Corinthian, Samno-Attic and pilos helmets were derived from Greek prototypes (Paddock 1993: 86-88). Other items of equipment, however, such as the triple-disc and rectangular anatomical cuirasses were distinctively Italic in form and origin. They may have incorporated Greek technological or stylistic features but they still retained their original purpose and function. Jarva's interpretation rests on the premise that the Greek material is functional while the Italic material merely apes and distorts its original form. Ankle guards used by the Greeks, of which over 50 examples have been found at Olympia, are quite distinct from the Italic types. In fact, there is little similarity in their appearance. The Greek examples average from 10-13cm high, and were clearly designed to protect the Achilles heel and ankle. Most of these Greek ankle guards have perforations around the edge for a lining to increase comfort and provide a closer fit, they were secured by a pair of holes tied at the front. Jarva also mentions a rounded section on top of the ankle guard to which would allow the greave to be fitted over it (1995: 105). Most of the Greek ankle-guards are dated from the second half of the 7<sup>th</sup> century to the third quarter of the 6<sup>th</sup> century on the basis of perforation measurements and the stratigraphy of excavations at Olympia (Jarva 1995: 100-103).

The Italic 'ankle guards' are much longer, averaging 21-27cm high, as much as double the length of the Greek examples. The width of the guards range from 12.5 to 16cm which are much too large to fit securely around the ankle even with holes for ties. There are also no perforations on any of the Italic examples. It could be suggested that these guards were worn with some form of padding beneath it, perhaps even the leather

of a boot. Jarva, calls the embossed bumps, which are sometimes found along the edges of these guards, 'false perforations'. It is easy to see how he came to this conclusion when one compares these guards to the perforated Greek ankle guards, but these embossed bumps are a decorative pattern which are found on other types of south Italic equipment including belts and armour, even those which have actual perforations. A good example of this motif can be seen on belt plaques from Lavello, tomb 420, and Banzi, tomb 343, which both date from the end of the 5<sup>th</sup> to the beginning of the 4<sup>th</sup> century (Bottini 1993: 153-155). It is perhaps no coincidence that these belt plaques, like most Italic 'ankle guards', come from Apulia and share similar decorative motifs.

The difference in height between the Greek and Italic ankle guards is marked from the beginning and there is no evidence of a gradual increase or overlap that one would expect from a continuation of form. To my knowledge no Greek-style ankle guards have been found in southern Italy, which would give a sounder basis for suggesting the connection with the so-called Italic types. At least with the Apulo-Corinthian helmet we find earlier Corinthian helmets from which they were derived in Southern Italy. One feature, however, which might suggest the Italic examples are ankle guards is the teardrop shape found on the side of them. Often, the form of armour replicates the part of the body it was made to protect, although the style in which this is rendered may vary between regions and over time. The teardrop decoration on the guard could be interpreted as a stylised representation of the ankle, but it could equally show a stylised representation of the calf muscle. This teardrop shape, however, always appears on the same side of both guards in a pair; and there is no differentiation between which is for the right or left leg. The Greek ankle guards on the other hand, make it quite obvious which is for the right and left foot, as this type of protection would have to be fitted quite closely if it was to be effective and not impede the movement of the warrior. It is for these reasons I believe Jarva and others to be mistaken in their assumption that these are ankle guards.



#### 4.8. An interpretation of the so-called ankle guard

There are no known representations of the so-called ankle guard from tomb or vase paintings to show us how this piece of equipment was used, nor are they mentioned in literary sources. Most provenanced examples come from Apulia, and date from the 5<sup>th</sup> to the late 4<sup>th</sup> centuries, and are sometimes associated with the Apulo-Corinthian helmet, as several have been found in tombs together. The true purpose of these guards is not immediately evident and requires some analysis and discussion. Many uncertainties surround this piece of equipment, one of the most perplexing is how they were worn? Museum displays and published illustrations show the ankle guard positioned both ways up. Peter Connolly has suggested to me that because they are sometimes found in graves containing full size greaves they were probably intended to protect the exposed area at the back of the leg not covered by greaves (pers comm. Feb 2003). Indeed, at the Landesmuseum in Karlsruhe there is a display of Greek and Italic armour in which the illustrated outline of a hoplite warrior with greaves has a pair of actual 'ankle guards' worn in exactly this manner (fig.39.6). This appeared to be a very lavish and cumbersome way of covering up the narrow partition at the back of the greave. I was not convinced by this explanation, or the illustration, and doubted that these two pieces of armour had ever been designed to be used together.

Returning to the evidence I found there are no undisputed examples of greaves and so-called ankle guards being found in the same tomb from the same deposition. The greaves and guards found in tomb 669 Lavello are from two separate depositions. The earlier deposition, dating to the end of the 5<sup>th</sup> to the beginning of the 4<sup>th</sup> century, consisted of an Apulo-Corinthian helmet, hoplite shield and a pair of guards. The second deposition, dating from the second half of the 4<sup>th</sup> century, included a Montefortino helmet, bronze belt, long type muscle cuirass and a pair of type 5 anatomical greaves (Bottini and Fresa 1991: 58-61). Publications, which show individual pieces of armour from this tomb do not always differentiate between the two depositions, hence the mix-up is understandable.

The other panoply, which has caused much confusion, is reputedly from Cumae now at the Royal Armouries in Leeds. I examined this assemblage in 2001 with the keeper of the Armouries, Thom Richardson, and he expressed his doubts about the

panoply's authenticity. It included a winged Samno-Attic helmet, Italic anatomical cuirass, belt and greaves all of which were made of bronze with a very similar patina. What stood out was a set of so-called ankle guards which had long been included with the other items (L1, fig.40). They were of a different patina and the decorative motifs did not resemble those of the rest of the panoply. Most convincing evidence of all was an illustration from the *Illustrated London News*, vol.22, 2 April 1853, which depicted the panoply upon its purchase for the armouries in the tower of London. Included among the armour mentioned above was a sword and spearhead (both now lost). The sword was quite clearly of a type dated to the 8<sup>th</sup> century as near identical examples have been found at Tursi tomb 7, and Pisticci tombs 454 and 230 (Bottini 1993: 27-35). This evidence convinced me that the Leeds panoply is a composite collection, and the guards, if they had been found in the same burial, were probably from a separate deposition, similar to tomb 669 at Lavello.

Fortunately, at the beginning of 2004 two burials from Gravina were published in which these guards were found (Ciancio 2003: 30-35). Presumably the guards were positioned near the part of the body they were supposedly intended to protect, as other items of equipment, the Apulo-Corinthian helmet and belt, were found near the head and around the waist. The burials from tombs 4 and 10 at Gravina show the ankle guards placed in front of the shins of a skeleton whose legs are in a flexed position (fig.39.5). In both cases the guards have the narrower portion pointed up towards the knees. So far this is the most explicit evidence there is to indicate how these guards were worn, but this is far from conclusive. Relying on the examination of the armour itself to explain how it functioned without representations is fraught with difficulty. Perhaps the only way we are likely to gain insight into how these ankle guards functioned is to make a replica set.

The ambiguous nature of these guards has resulted in interpretations which make no attempt at explaining the features of the equipment as a functioning item. Having examined a number of these guards at first hand I was able to get some insight into their shape and dimensions that are not readily apparent from photographs alone. It seemed logical that this item of armour would have proportions similar to the part of the body it was intended to protect (fig.39.1-4). Wearing them around the calf seems to fit better with the measurements of existing examples, and the narrow upper part of the guard

would cover the kneecap in the longer versions. I therefore measured my own leg and compared this with the size of the ankle guards. My measurements were recorded at 32cm from the bottom of the knee to the top of the foot, 13cm for the width of the calf and 11cm from the shin to the back of the calf. At the ankle measurements were 6.5cm wide by 10cm from the Achilles tendon to the front of the foot. It becomes readily apparent that with lengths of 21-28 cm these guards would have covered a substantial part of the lower leg if we exclude the knee. The width of the guard averages 12-15 cm and would fit around the calf quite comfortably even allowing for the curvature of the armour, and could be tied tighter at the back. Indeed, the shape of the guard, wide at the top then tapering downwards seems to follow the natural contour of the leg. The end of the guard would not interfere with the movement of the foot. I am convinced these guards were not meant to protect the ankles as the shape and proportions are just too large. It seems more likely they were intended as a form of abbreviated greave or shin guard and is typical of Italic armour designs where there is a preference for a lighter alternative. When these leg guards are analysed in this manner it is clear they are functional and distinctively Italic and not an offshoot of a Greek original suitable only for ritual use.

One last bit of evidence which I believe supports the claim that these are indeed leg guards is found in the shin guards from much earlier Italic tombs. In Naples there is a pair of these shin guards from Canosa, which were dated to the 10<sup>th</sup> or 9<sup>th</sup> century (Boriello and De Caro 1996: 162-163, fig.44.1). The guards measure 28.1 cm high by 12.8 cm wide comparing closely to the dimensions of the type 1 leg guard. They are decorated by embossed bumps along the edge of the guard and running down the centre. A pair of embossed circles are also found at the upper edge of the shin guard and seem similar to the type of decoration found on the leg guards. There are also two holes on either side of the guard for fastening them by a cord around the back of the calves, while four smaller holes are located at the very bottom edge. The general shape and method of securing the shin guard seem to hint at some connection with the later leg guards.

#### 4.9. Typology of the Italic leg guard

There appear to be three basic types of leg guards, which are differentiated largely on the basis of their length and the angularity of their form. The upper portion of the guard seems to have been reduced over time and therefore they have been designated as long, medium and short leg guards. There are slight variations between some guards of the same type, but these seem to have more to do with the style of decoration rather than some difference in functionality. A feature common to all of these guards is the embossed teardrop shape which is always found on the right hand side of both pieces. A pair of embossed lines outline the contour of the shins on the front of the guards. On the back of the guard is a single pair of holes for tying secure with a cord.

**Type 1 (Long):** Long guards average around 27 cm high and are very angular with clearly defined decorative features. They are characterised by a deeply scalloped profile, which is created by a long narrow portion extending from the body of the guard. This long narrow portion expands into a wide point or arrowhead shape. Common decorative features that are sometimes found on the pointed end of the projecting portion are embossed bumps. The leg guard at Vienna (L7) has two large bumps at the pointed end. There are also a number of smaller bumps which border the edge of the projecting portion of the guard (fig.41.3). The example from Cumae (L1) is embellished with a total of eight embossed bumps: six in a circular pattern at the pointed end and two more at the wide end (fig.40.1). These embossed bumps are all encircled by punched indents. The guard from tomb 421 Banzi (L30) has six embossed bumps arranged in an identical fashion to example (L1) but without the surrounding indents. The embossed bump decorative feature is sometimes found on bronze belts, triple-disc cuirasses and helmets. The edges of the guard are folded outwards creating a narrow ridge. The embossed teardrop motif on the right side of the guard is clearly visible and pronounced. There are only a small number of these guards which come from dateable contexts ranging from the middle of the 5<sup>th</sup> century to the first half of the 4<sup>th</sup> century. The long type guard is the most numerous with 14 examples.



**Type 2 (Medium):** Medium guards average around 24 cm high and have clear definition to their form and shape although not as pronounced as the type 1. The scalloped profile is still evident but is not so deep as the long type, nor is the extended portion as high. There is a greater amount of variation in the form of the type 2 guard which retains remnants of features from the type 1, such as the unprovenanced example (L25). This guard still has the pointed protrusion from the body and is even decorated with two embossed bumps, but these features have become much squatter than those found on the type 1. On many guards the extended portion has become more rounded or squared off. A guard once on the New York market (L29) has only very slightly pointed protrusion, while example (L5) from the ex-Guttmann collection has lost its point completely and is flat edged (figs.41-42). The embossed teardrop shape is visible on the right side but is not as pronounced as before. Unfortunately, none of the type 2 medium guards come from dateable contexts. Typologically, however, the features of the medium type are intermediate to the long and short types, so they probably span the period between them. A tentative date of the end of the 5<sup>th</sup> to the middle of the 4<sup>th</sup> centuries is probably a reasonably accurate attribution. There are a total of seven medium type guards.

**Type 3 (Short):** These guards average around 21cm high and have much less angular edges and defined features than the medium and long types. Jarva cites a pair of ankle guards in a private Swiss collection, which measures 16cm, but these are not illustrated and therefore it is not clear if these are related to the short type (Jarva 1995: 104). All of the examples I have examined or seen photographs of are at least 5cm longer than the Swiss example. The teardrop shape is still present on a single side of both guards but is only faintly discernable. The whole shape of the guard is much more compact with more rounded edges. The projecting portion found on the type 1 and 2 guards has receded until only a vestigial protrusion is present. An unprovenanced example from the ex-Guttmann collection (L6) has a very small extension from the main body of the guard (fig.41). While the protrusion on the guards from Copenhagen (L33) and ex-Guttmann (L35) are barely discernable (fig.42). The scalloped side extending to a raised end has been replaced by a sloping diagonal edge giving the guard an almost triangular profile. The only dateable example of a short type guard comes from tomb 600 Lavello (L13) and is

dated from the first half to middle of the 4<sup>th</sup> century. There are a total of seven short type guards, with another possible example in a Swiss collection which has been attributed to Apulia (L16). A technical development, which seems to have paralleled that found in greaves, is the increasing thinness of leg guards. Compared to the robust and substantial type 1 long guards the short type is quite delicate and lightweight.

In summary there are three main developments in the evolution of the south Italic leg guard: the gradual reduction of the protruding portion from the body of the guard, the softening of the angles and decorative features to a more natural appearance and the increasing thinness of the armour. The muting of artificial features and thinning of the bronze sheet are parallels found on other types of armour in southern Italy, most notably greaves. A great deal of work still needs to be done on these guards and further refinement to the three types I have identified so far.

#### **4.10. Distribution and chronology of the Italic leg guard**

At present there are 35 examples of the Italic leg guard listed in this catalogue. Only 14 of these have known provenances more specific than Southern Italy or the regions of Puglia (Apulia) and the Veneto (fig.43). Lavello is the site containing the most examples with four pairs. Gravina and Rutigliano have two pairs each while the remaining six, from Cumae, Friuli, Ortona, Banzi Chiuchiarì and Ruvo, are single find spots. Most of these provenanced examples are located in the modern regions of Puglia and Basilicata, which overlaps the ancient region of Apulia. Considering that the leg guards are sometimes found with the Apulo-Corinthian helmet, which has been attributed to this region, it seems possible they were developed in this area. Finds outside this region, such as at Cumae, Friuli and the Veneto, all come from old collections and the accuracy of their provenances must be regarded with some suspicion.

There are a total of 10 sets of leg guards, which come from dateable tomb contexts and are distributed between five find spots. Four of these guards are from Lavello, two at Gravina and Rutigliano, and one each in Banzi and Chiuchiarì. The four burials from Lavello (L10-L13) span the period from the middle of the 5<sup>th</sup> to the middle of the 4<sup>th</sup> centuries. The two examples from Gravina (L26-L27) are dated to the same period. While the leg guards found at Chiuchiarì (L34) are attributed to the second half of the 5<sup>th</sup> century, and those from Banzi (L30) to the first half of the 4<sup>th</sup> century. This

gives a rather solid chronology of 450-350 for the Italic leg guard and all within relatively constrained area of south-eastern Italy. This is a very limited number of leg guards and new finds may increase the time span or geographic distribution, but at present one might be tempted to call this an Apulian leg guard.

I must make mention of the large number of leg guards which have found their way into private collections. While examining the armour from the former Guttman collection at *Christies* in March and April 2004, I came across a photocopied inventory of the entire collection, not just those items that were being auctioned in that lot. This listed and illustrated an astounding total of 18 sets of Italic leg guards in the Guttman collection alone! Unfortunately, we were not allowed to make a copy of this inventory as it was used by *Christies* to calculate the going sale price of these pieces. Sadly, even with access to this inventory it is unlikely that any of these leg guards have a provenance more specific than southern Italy or Apulia, and so is likely to contribute very little to our overall knowledge of this armour, contextually or developmentally.

#### 4.11. Foot guards

A very rare item of armour is the bronze foot guard (fig.44.2). Only three examples of foot guards have been recovered at Olympia, suggesting this type of armour did not find wide usage (Jarva 1995: 105). I am also unaware of any depiction of foot-guards from representational sources in either Greece or southern Italy. In the British Museum there is a pair of bronze hinged foot guards, which are attributed to Ruvo, and are the sole example of this type of armour to come from southern Italy. The foot-guard is made in imitation of a foot with individual toes and measures 22.9cm long. A hinge is located across the instep, which would allow wearer to bend the foot while moving. There is a small hole located between each toe, which is probably meant to secure an inner lining. It seems likely that the foot guard was fitted to a sandal or boot, which would also have acted as additional lining and padding. The protective value of the foot-guard is questionable as it would probably have impeded the normal movement of the warrior more than a greave. Jarva dates these examples to the last quarter of the 6<sup>th</sup> century based on the rendering of the anatomical features of the foot. The example from Ruvo seems to be later than the Olympian foot guards, as the rounded contours of the

toes is suggestive of a 5<sup>th</sup> or 4<sup>th</sup> century date (Jarva 1995: 106). The foot guard was clearly a supplementary form of protection that was rarely used in Greece, and even less so in southern Italy. Its appearance in the archaeological record probably testifies to its novelty appeal among some warriors.



## Chapter V: South Italic bronze belts

### 5.1. Bronze belts

The bronze belt is a ubiquitous, yet enigmatic artefact in the 5<sup>th</sup> to 3<sup>rd</sup> centuries of Southern Italy and appears to have had significance at a military and social level. These belts, like the triple-disc cuirasses, are often referred to as 'Samnite' belts by modern scholars (Salmon 1967; Suano 1986; Schneider-Herrmann 1996; Romito 2000), because of their, 'frequent appearance in Samnite territory and in representations thought to be of Samnite warriors. These warriors are shown in Campanian and Lucanian vase and tomb paintings at a time when Campania and Lucania were occupied by Oscan [speaking] tribes' (Suano 1986: 1). They are also depicted on Apulian red-figure vases and appear in tombs from this region. A small number of belts have also been found in Sicily where south Italic mercenaries were active throughout the 5<sup>th</sup> to 3<sup>rd</sup> centuries. It is clear there is some connection between the bronze belt and the Samnites, but it was worn by most of the non-Greek speaking peoples of Southern Italy and for this reason it will be referred to as south Italic.

There have been a number of studies on the bronze belt, by Rebuffat-Emmanuel 1962, Irelli 1965 and Suano in 1986. Suano's examination of these belts is the most comprehensive and has established a typology of the belt clasps which has found wide acceptance and usage. This typology was later updated and refined in 2000 as part of a collection of research papers on the archaeology of the south Italic peoples in *Studi sull'Italia dei Sanniti* (2000: 183-191). Another significant contribution to the study of these belts in the same publication was from Romito, 'I cinturoni sannitici' (2000: 192-201). My research has little to add to the typology established by Suano, instead I wish to concentrate on some aspects of the bronze belt which have either been overlooked or not analysed in as great a detail as they deserve. These aspects include topics such as the antecedents of the belt in Italy, and their meaning and function in military and social contexts. I will also examine the question, was the bronze belt actually an item of military equipment, and if so what was its relation to other items of the panoply? The first portion of this chapter, however, is a description and typology of the bronze belt clasps as laid out by Suano, with some small additions from my own research.

## 5.2. Characteristics of the south Italic bronze belt:

The south Italic belt was made from sheet bronze, 7-12 cm wide and 70-110 cm long, fastened by two or more bronze clasps. Suano states that the belts are 1-3mm thick but after examining numerous examples myself, I have found that most are much thinner. On the average bronze belts have a thickness of 0.5 – 1.5mm and I have yet to find one over 2mm (Suano 1986: 1). Belt bands of the thickness described by Suano would have been somewhat difficult to bend, most in fact are quite flexible. It is therefore testament to the thinness of these belts that even after more than 2,000 years many of them still retain a degree of flexibility that is surprising and great care must be taken when handling them. The belt band was perforated along the edges by regularly spaced holes to which a lining and a backing were sewn or secured by rivets or studs. A general rule regarding the chronology of these perforations is that wider spaced holes are earlier than those that are closely spaced. I have already mentioned my hesitation at deriving a dating sequence based on perforations in chapter 4 (Jarva 1995: 65-72). In some rare instances evidence of the lining and backing survive. One of the best-preserved examples of a belt lining is at Chieti and comes from Pennapiedimonte tomb 13 (B142). This belt still had the remains of a leather lining, which was secured by rivets. A cloth backing was stitched to the leather lining covering the inside of the belt completely. The presence of studs on some belts, suggests these were exposed as a decorative feature and Virgil describes an Italic warrior in the *Aeneid*, 'his belt, inset with glittering rivets' (XII.952). A Capuan tomb painting of a cavalryman shows a belt in surprisingly good detail, which has a dark lining with contrasting bronze studs (Bennasai 2002: 187-188).

The clasps of the belt were usually made separately and fixed to the band by 2-5 iron or bronze rivets. The belt was fastened by hooking the male end of the clasps into holes on the other end of the band. There were usually three sets of holes, which allowed the size of the belt to be adjusted. The belt could apparently be put on from either side. A statue of a warrior from Teano, of which only the torso survives, shows the belt fastened from the right to the left (fig.49.1, Colonna 1997: 71). Burials in the Gaudio necropolis of Paestum, where the belt is found around the warrior's waist, also show fastening from right to left in tombs 174 and 197, while tombs 136 and 164 are secured the other way round (Greco and Longo 2000: 203-211). Most of the belt bands were

plain but a number have been found with incised or embossed decoration, some examples are also embellished with applied metalwork. Decorative motifs are often wild animals or mythological beasts. Belts with elaborately incised decoration on the band sometimes have clasps formed directly from the band (Suano 1986: 1).

### **5.3. The population of bronze belts and clasps**

In 1986, Suano put the population of bronze belts at 260 to which 476 clasps were attached aside from these were 241 loose clasps. Since that time the number has risen to 604 belts, 487 with plain bands, 117 with decorated (Suano 2000: 189). My own research has led me to believe that even this number is probably an underestimation of their total numbers. It is likely that these belts and clasps number well over a thousand. A large amount of these belts and clasps are still unpublished. In Pontecagnano for example, I was informed from archaeologists working at the museum that they had found 'many, many belts, easily over a hundred' during the excavation of nearly 8,000 tombs. Yet, there are only a small number of belts, which have been published from Pontecagnano, (Suano lists only one in 1986, and Romito two in 2000), and only eight are on exhibit at the museum there. I saw several other belts that were partially visible wrapped in protective foam and awaiting display. The novelty and attractiveness of the belt clasps have also made them very appealing to collectors of antiquities and they are frequently found in auction catalogues and private collections. I had the opportunity to examine seven well-preserved belts from the ex-Guttmann collection (belts B108-B114), and was informed there were many more to be auctioned off in later sales. I have made no attempt to track down every known south Italic belt and clasp, the time and effort required for such an undertaking goes far beyond the scope of this thesis. The present sample of 227 belts and clasps, which have been catalogued here, was compiled from specimens I had examined in various collections and those I had come across in the course of my research on other items of equipment. There are also a significant number I have recorded from Suano and other publications, which I felt offered a wide range of types. The compilation of belts and clasps into a single database is undoubtedly a project which needs to be undertaken at some point, and one that would be a valuable tool in helping to understand them.

#### 5.4. Typology of bronze belt clasps

Suano states that her typology of 'Samnite' belts was derived 'almost exclusively from the morphological (iconographical) variability of the clasps' (Suano 1986: 1). Her typology of belt clasps originally consisted of nine main types with a number of sub-types. Suano later refined her typology to eight varieties but with a far greater number of sub-categories for each type (Suano 2000: 183-191). My study does not attempt to revise the exhaustive and very thorough typology established by Suano for these clasps, which is widely accepted. There are, however, a number of belt clasps which do not appear in Suano's typology, and so for the purpose of this study I have included them here. These new clasps have either been inserted into Suano's typology as variants or have been added as types 9 through 11 (fig.45).

The clasp generally consists of a body, which is attached to the belt band by two or more rivets, and a head from where a downward curving hook protrudes. In most cases the entire clasp is made from one piece of bronze, but in some instances the head and hook are separate from the body. There are also clasps which are integral to the belt and project directly from the end of the band. These clasps consist solely of the hook portion. In place of the clasp body there is usually a decorative band of incised motifs running the width of the belt behind the two hooks. A number of unusual clasps have been found which do not fall within the normal typology. These include clasps which are representations of animals and have hooks in the form of horns or serpents.

**Type 1:** The body of this clasp is of two ornately detailed palmettes and volutes with incised and punched dot decoration. The head of the clasp for the type 1A is an indeterminate animal (probably a wolf or dog) from whose mouth the hook protrudes. Type 1B simply has an arrow or spearhead in place of the animal head. These clasps have been found in contexts which span the entire 4<sup>th</sup> century (Suano 2000: 184). My sample has a total of 40 type 1 clasps: two of 1A and 38 of 1B.

**Type 2:** The body of the clasp has a single plain palmette, made of thin bronze with incised decoration. Suano has identified seven sub categories of the type 2 based on



differences of the head and rendering of the palmette (Suano 2000: 191). The head for type 2A is of the same animal found on the type 1A clasp. The type 2B is also of the same arrow/spearhead on the type 1B. Type 2C has simply a long plain hook from the palmette body. Type 2D has a long hook but with a small rectangular portion on it this may in fact be an abstract rendering of the animal head motif. Type 2E is a slightly more ornate palmette body with a plain hook head. Type 2F has a palmette that has a larger number of fronds than the other types and a long straight hook for a head. Type 2FF has a more stylised animal head hook. Clasps 2A are dated 375-350, while 2B are 350-300. Types 2C, 2D, 2F, 2FF are all dated 450-350. Clasp 2E is without a datable example, but a date of the first half of the 4<sup>th</sup> century is probable (Suano 2000: 184). My sample has a total of 36 type 2 clasps: four - 2A, 22 - 2B, 1 - 2C, 3 - 2D, 2 - 2E, 2 - 2F, 2 - 2FF.

**Type 3:** The body is of chiselled bronze with ornate double palmette and volutes, similar to the type 1 clasp bodies, but more compact and less detailed. The head is usually of the animal type although Suano says there are also arrow/spearhead variants. Only one example of a type 3 clasp is found in the present sample. These are dated to the second half of the 4<sup>th</sup> century.

**Type 4:** The body of type 4A and B clasps are thick and hollow and represent a stylised cicada. The head of the type 4A clasp is of an animal head with the hook protruding out of its mouth. The head of the type 4B clasp is that of a stylised arrow or spearhead. Type 4C has a more abstract rendering of the cicada body with a plain arrow/spearhead hook. Type 4D is a narrower representation of the cicadas body with a hook head that is plain except for two protrusions near the base. Type 4A is dated 420-320, 4B is 350-300, 4C is 420-350, 4D 400-300 (Suano 2000: 184-185). My sample has a total of 55 type 4 clasps: 29 - 4A, 25 - 4B, 1 - 4C.

**Type 5:** There are six varieties of the type 5 clasp which are characterised by bodies which are very narrow, highly stylised cicadas. The heads of these clasps are all abstract representations of the animal head. Type 5A is slightly thicker and more bulbous than the others. Type 5AA has two animal head protrusions in profile at the end of the body

of the clasp. Type 5B is a long slender cicada body and animal head. Type 5BB is an even longer variation of the 5B, these were usually 5-8 of these clasps attached to a belt band. Types 5C and D are clasps that have heads and bodies which are attached separately to the belt band. The difference between these two varieties is that the head of 5C is more bulbous than the 5D. Types 5A and 5D are dated from 350-300, while 5B, 5BB, 5C, 5E are all dated from 320-280. The type 5AA clasp has not been found in a datable context (Suano 2000: 185). The present sample includes 17 type 5 clasps: 3 – 5A, 8 – 5B, 4 – 5bb, 2 – 5d, but none of 5C.

**Type 6:** The type 6 clasps are characterised by having figurative bodies and animal type heads. Suano categorises the type 6 into two varieties of a single figure (type 6A) and a double figure (type 6B). There are a large number of variations for both types of clasp. The type 6A clasp has a body of a winged man with a sword standing on the head of a wolf or dog. Protruding from the top of the man's head is a hook with an animal head. Other variations of the type 6A clasp include Hercules wearing a lion skin and carrying a club (examples B195-B196), a bearded flute player (B5) and a winged Nike (not listed). Type 6B has a pair of nude male figures connected by a 'bridge' of bronze from which protrudes an animal head hook. The type 6 clasps have been dated from 350-300 (Suano 2000: 185). The current sample includes 18 type 6 clasps: 10 – 6A, 8 – 6B.

**Type 7:** Type 7 varieties form a less coherent group. Type 7 (Suano's former type 9 in 1986) is a plain hook with two rivets to attach it to the belt band. Type 7A has a clasp body of two lunging lions or boars in profile and an arrow/spearhead hook. Type 7B has a clasp body of two rams butting heads and an abstract animal head hook. Type 7AB has a very abstract bulbous body and a globular head hook. Type 7 clasps are dated from 350-300 (Suano 2000: 185). My sample includes six type 7 clasps: 3 – 7A, 3 – 7B.

**Type 8:** Type 8 clasps are characterised by being integral to the belt itself. There are always two hooks which are arrow/spearheads or animal heads. The band itself is always ornately decorated with incised and punched dot patterns and motifs. Type 8A has animal head hooks between these are points which protrude from the end of the belt.

Type 8AA has two widely set hooks with more abstract animal head hooks and the portion of the belt between these is flat. Type 8AB has two arrow/spearhead hooks. Types 8A and 8AB are dated to 420-300, while type 8AA is 320-280 (Suano 2000: 185-186). I have included a fourth type 8AC, which is similar to type 8A but has narrower hooks and more detailed heads. This example B141 is from tomb 117 Alfedena and dated to the first half of the 4<sup>th</sup> century. The present sample includes nine type 8 clasps: 7 – 8A, 1-8AA, 1 – 8AC and none of 8AB.

**Type 9:** Type 9 is a type of clasp, of which so far there is only one example, but since it is cast it is likely there were others. It is possible that the belt from the Fuscillo tomb in Paestum is another example of this type but it is difficult to be certain from the poor image (Sestieri 1957: 171). The clasp is highly decorative and has a body composed of a lion leaping on the back of a stag. This is a motif which appears elsewhere in south Italic iconography and seems to be associated with martial prowess. Protruding from the body of the clasp are two snakes whose heads form the hooks. This clasp is from tomb 136 Gaudo necropolis, Paestum and is dated 420-400 (B68).

**Type 10:** The type 10 clasp is represented by an example from Paestum. The body consists of a bull's head with two horns which extend to form hooks. A variant of this type has a single clasp in the form of a bulls' head. This clasp is from Tomb 265 Gaudo necropolis, Paestum and dated 390-370 (B74).

**Type 11:** These clasps are characterised by separate body and hook portions. The body is made of silver, in the form of a palmette, which is similar to the type 3 clasp but has a more extended and elaborate design. The head portion is of an animal but much narrower and more detailed than the type 3. These two-part clasps have the body attached to the facing part of the belt while the head or hook is secured from the inside. I examined two belts at Pontecagnano with this type clasp, but unfortunately they were undergoing conservation work and there was no one present who knew anything about their context or date. By the style of the clasp and the narrowing heads I would suggest a date of the second half of the 4<sup>th</sup> century.

### 5.5. Decorated belt bands:

Although there has been a detailed analysis of the belt clasps, the decorative motifs found on the bands have largely been ignored. Belt bands were decorated in three different ways: in repousse, by incision and punching, and through the addition of appliqué. In some instances a combination of decorative techniques are used. Decorative motifs, which are found on belt bands, are most often of animals or mythological beasts. At the British Museum a section of belt band is decorated with a pegasos in repousse, the wings and other features of which have been embellished with incised details (B39, fig.51). Another belt band section at the B.M. is of a hippocamp and dolphin in repousse (B40, fig.46.3). A near identical hippocamp in repousse is found on the belt band from the former Guttman collection (B112, fig.46.1-2). In this instance, however, the hippocamp is found accompanied by an array of running deer and lions. From tomb 13 Ginosa, dated 490-450 is a belt band decorated with charging boars and lions in repousse with incised details (B122, fig.46.4). These animals are rendered in a manner which is very similar to those often found incised on Apulo-Corinthian helmets.

A belt band found in Basilicata and dated 500-480 is one of the few to be found with non-zoomorphic designs (B121, fig.46.5). The band has a circle with an eight-point starburst motif in repousse, which was a popular shield device in 4<sup>th</sup> century Southern Italy. There are also a number of large and small four-spoked chariot wheels in repousse, which might be associated with Nike the goddess of victory. At this point in my research I have avoided trying to categorise these embellishments as I believe there is little that is systematic about them. From the examples I have examined, there is an incredible amount of variation, in both the decorative motifs and the method of rendering them and I believe they are largely a matter of personal choice. Although the iconography could be compared with that found on other items of south Italic military equipment and seems to be associated with mythological scenes. Virgil seems to have drawn inspiration from these decorated belt bands when he states the hero, Pallas, had a 'massive belt with its scene of horror engraved on it: a band of young bridegrooms all foully murdered . . . a scene chased with lavish gold by Clonus son of Eurytus' (*Aeneid* X.492-498). Clearly in



this case the decoration on the belt is meant to relay an episode in mythology that was significant to the wearer.

### 5.6. The significance of the bronze belt

When considering the significance of the bronze belt the question must be asked, were they merely an item of south Italic costume or were they truly regarded as military equipment and therefore part of the panoply? Tomb and vase paintings show south Italic males wearing bronze belts with and without military equipment. On occasion even old men are depicted wearing the belt beneath the *himation*. The belt has no obvious military function, there are no attachments or fittings for weapons or equipment. Only in some representational sources are the belts depicted as being used as a point of attachment for the side straps of a single-disc cuirass but it is unclear how this was done (see single-disc in chapter 2). It seems unlikely that the belt was relied upon as a form of protection as it is often depicted on warriors without armour. Some insight into the bronze belts' significance in the south Italic panoply can be drawn from representational sources. A lid from an Apulian red-figure vase depicts an episode from the *Iliad*, in which a number of Nereids astride hippocamp are sent by Thetis to reequip her son Achilles with a new panoply of armour (fig.47.1, Bottini 1993: 225). Amongst the items of equipment carried by the Nereids are a helmet, sword, greaves, shield, muscle cuirass and a bronze belt. It is clear from this image that the bronze belt was most certainly regarded as an item of military equipment and a part of the warrior's panoply.

The bronze belt also figures prominently in tomb and vase paintings as an item of spoil carried as a trophy by victorious warriors (fig.47.3-5). These images reinforce the military significance of the belt and its value as a trophy. Belt clasps found at sanctuaries are often believed to have come from trophies displayed there. At Pietrabbondante for example, fragments of belt bands and eight loose clasps (four of type 1B and one each of types 4A, 4B, 6A, 8AC) were found in association with helmets, cheek pieces, greaves and weapons which were all thought to be captured spoils (Cianfarani 1980: 151-152, B171- B176). A bronze belt found in Sicily is inscribed along the entire length of its band: 'Phaikon, from the spoils of the Centuripini, dedicated this to all the gods'

(fig.47.2, Tagliamonte 1994: Tav.X). In this instance there is no ambiguity regarding the belt's significance as an item of military equipment.

Suano notes that occasionally bronze belts, 'might be buried as a trophy at the dead man's side. When this happens, the dead man has one belt round his waist; the second one at his side may be symbolic reproduction of the situation of the returning warrior, who comes back from battle with one belt on and another in his hands as a trophy' (Suano 1986: 34). I have studied the practice of trophy taking in southern Italy and the iconography associated with it and I am unconvinced by Suano's interpretation (see Burns 'Visible proofs of valour' 2003: 42-56). The belt was not the only type of trophy depicted in the return of the warrior paintings: the shield, tunic and even greaves are also featured (fig.47.3-5). Being a prestige item there is a possibility that these belts were passed down between father and son, or that a warrior might own more than one for different occasions. The two belts found in tomb 197, Gaudio necropolis in Paestum are suggestive of this conclusion as they are both of relatively the same length, 93 and 93.3 cm (B70, B71). In this instance it seems far more probable that the warrior owned more than one belt.

These belts were clearly more than just a piece of military equipment, examination of actual examples show that they had a value that went far beyond their monetary cost. Many belts show evidence of having been repaired on numerous occasions (fig.48). The damage usually consists of breaks or cracks on the edges of the belt, which is consistent with the stress the band would have received from bending through normal usage. Belts were often repaired using sections of other belts or pieces of scrap bronze. With small cracks this might be a small strip of scrap bronze as found on riveted to the edge of belt (B109) from the ex-Guttmann collection (fig.48.5). The cannibalisation of belts to either mend or extend the length of bands also appears to have been a common practice. The belt from the panoply at Leeds is constructed from four different belt bands which have been riveted together (B1, fig.48.4). This can be clearly discerned by the spacing of the perforations along the edge of the belt, which is different for each section of the band. In some instances the joins on these extensions have been done with great care and even embellishments. Belt (B109) from the ex-Guttmann collection has two sections of belt, which are joined by small carefully spaced rivets and

decorated by an ivy leaf pattern punched over it (fig.48.3). Pieces of decorated bronze cut into shapes were also used to embellish as well as repair the belt as is evident from the 'I-shaped' plaque from belt (B113) of the ex-Guttmann collection (fig.48.2). At the Ashmolean a strip of bronze decorated with a swastika in repousse and two rows of punched dots have been used to repair the band and reinforce the riveted clasps (B4, fig.48.1). The quality of the bronze sheet used to make these bands probably varied considerably, resulting in a high degree of maintenance and repair.

A number of belts show that clasps were also replaced on occasion. This can be seen most clearly when the present clasps only partially cover the outline of a previous set, which are visible on the belt band from discolouration. New pair of clasps might have been attached as part of the regular maintenance from either the breakage of hooks or if one clasp was lost and another of the same type could not be found. An alternative explanation could be that old sets of clasps were replaced because they had gone out of fashion. It seems probable however, that clasps were replaced for both practical and decorative reasons, corresponding to the dual nature of the belt as a functional and emblematic artefact.

Livy refers to Samnite warriors wearing a *balteus*, which has usually been interpreted by modern scholars as a baldric (Livy IX.40; Salmon 1999: 102; Connolly 1981: 107). Bishop and Coulston however, state that the term *balteus* probably refers to a military belt, as this has been found in several ancient sources. The term *cingulum*, which is usually interpreted as a belt, is hardly ever found in ancient sources before the 3<sup>rd</sup> century AD (Bishop and Coulston 1993: 96). Considering the representational evidence from southern Italy, which Livy was probably aware of, it seems more likely that he is using the word, *balteus* to describe a belt. In Virgil's epic poem the *Aeneid*, many of the images he used were drawn from the imagery and iconography of earlier periods in Italic history. The belt, for example, plays a significant role in the poem. In a duel between champions, Turnus 'planted his foot on the lifeless Pallas and tore from him his heavy, massive *balteus*. Such was the trophy which Turnus rejoiced and gloried to have won' (Virgil X.492-498). At the climactic conclusion of the *Aeneid*, Aeneas defeats Turnus in a duel, and is on the verge of sparing him, when he suddenly spots the belt of Pallas. 'The trophy was fatal to him. Aeneas' eyes drank in the sight of the spoils which

revived the memory of his own vengeful bitterness' (Virgil XII.940). The importance that is attached to the belt of Pallas seems to parallel the significance of Achilles' panoply in the *Iliad* (XIX.379-391). It almost seems as if Virgil has purposefully selected an item of archaic Italic equipment to represent what he believed was part of a heroic era in Italy.

Although we cannot understand the precise meaning that was attached to these belts, it is clear that they had significant symbolic value perhaps to do with social class, or as Connolly proposes 'the very symbol of his manhood' (Connolly 1981: 109). On rare occasions they are found in the tombs of children as is evident from the example from Termoli Difesa Grande, tomb 8, dated 350-280, which is much too small for an adult (B129). This suggests that these belts belonged to the aristocracy, to whom symbols with military significance were important to reinforce their role and status within society. But it is also true that these belts have been found in quite humble graves. In the Campo Consolino necropolis of Alfedena 126 burials were found many well furnished with pottery and other grave goods. Only three burials of these burials contained belts and lacked any grave goods save small iron blades (Suano 1986: 35). In Pontecagnano several burials with belts contained only a cup or spearhead in contrast to those which contained a vast array of items. It is difficult to determine the exact status of belt wearers from this evidence. What is certain is that the belts were closely associated with the warrior and were clearly regarded as part of the panoply.

### 5.7. Antecedents to the south Italic bronze belt

The iconic status in which the belt was regarded in South Italic society raises questions of its origins. Is this an artefact that has a long tradition in southern Italy, or was it adopted and adapted from other peoples? There is no clear or definitive answer. Schneider-Herrmann believed these belts came from the Middle East and were part of the tunic and belt costume exemplified by Hittite sculptures (Schneider-Herrmann 1996: 12-13). Indeed, there are parallels to these belts found in other societies, most closely are those found among the peoples of ancient Urartu from the 9<sup>th</sup> to the 7<sup>th</sup> centuries, in what is now eastern Turkey. The Urartian belts have similar bands of thinly hammered copper alloy and are often decorated with warlike or mythological motifs. These belts are also perforated along the edges for a lining and backing. The similarity with Urartian belts



however, may be superficial as they lack the characteristic belt clasps of the south Italic types. Although, separate belt clasps do not appear in Southern Italy until the 5<sup>th</sup> century. Robinson supports an eastern origin for the bronze belt and states that the earliest examples in Italy were foreign imports. He cites a belt from a tomb at Canosa which is dated to 700-650 and attributed to the 'Adriatic type' on the basis of decorative features. Like the Anatolian belts the Canosan example had no clasps just holes on either end of the band to which a length of cord was probably fastened (Robinson 1993: 153).

At Pontecagnano, however, there is strong evidence that these belts evolved from early indigenous types within southern Italy. A belt from tomb 3208, which has been dated by ceramics to the first quarter of the 8<sup>th</sup> century, was made from a single piece of hammered bronze (B119, fig.49.2). The male end of the belt ends in a large circular portion from which a single long hook protrudes. At the other end there are three holes to adjust the size of the belt. This is very similar in design and function to the later south Italic belt hooks of the 5<sup>th</sup> to 3<sup>rd</sup> centuries. The entire band of the Pontecagnano belt is decorated with incised geometric designs and bumps in circular patterns in repousse. A similar style of incised decoration is found on the type 8A-C belts, dated 420-300, which also have clasps integral to the belt band. It is evident that this belt is an antecedent to the later south Italic examples. What is fascinating is that it predates the appearance of the Greeks, who presumably would have introduced these belts if they had originally come from the east. The Pontecagnano example is also three centuries before the arrival in Campania and Lucania of the peoples who were related to the Samnites, with whom this belt is most closely associated. This evidence alone raises questions about the validity of attributing these belts to the Samnites and other Oscan speaking peoples related to them. It would seem that the Italic peoples which had preceded them also had a similar type of bronze belt.

Another early belt of interest dates from the 6<sup>th</sup> century and is from Tomb 1, Troccola necropolis near the sanctuary of Pietrabbondante (Cianfarani 1980: 132-134, B136, fig.49.3). This belt has a plain band 84cm long, 5cm wide, with a perforated border for a lining. The clasps are especially interesting as they are made from bronze wire twisted into the shape of two hooks. The wire hooks are attached to the band by rivets. Unlike later clasps the hooks on this belt turn upwards. On the female end of the

belt there are two sets of holes on the band, along with a twisted wire extension into loops for another set of holes. This belt is clearly related to those of the 5<sup>th</sup> to 3<sup>rd</sup> centuries and shows a progression in the design of the clasp fastening system, from one to two hooks, and the perforations on the band. This example was found within territory attributed to the Samnites and shows that by the 6<sup>th</sup> century at least, these type of belts were being used by the Italic peoples of the Apennine highlands.

### **5.8. Bronze belts and the manufacture of military equipment**

One interesting and important aspect, which has not been explored, is the relation of the bronze belt to other items of south Italic military equipment, specifically the triple-disc and anatomical cuirasses. The hook clasps used to secure the side-plates of triple-disc cuirasses which are sometimes similar or identical to the clasps found on belts. The only difference between them is that the hook portion of the clasp on the side-plate of a cuirass is turned out and away from the body. There are several panoplies from Paestum which show identical types of clasp on the triple-disc cuirass and the bronze belt. This suggests they were made as part of a set of matching armour. The clasps on the cuirass (T24) and belt (B69) from tomb 174 Gauda are both type 4A (fig.50.1). While piecing together the cuirass from tomb 110 San Venera (T22) from fragments that had been poured out of a plastic bag, I found both belt clasps (hooks down) (B61) and a side-plate clasp (hook up) mixed together (fig.50.2). The clasps in this instance were both type 4B (Pontrandolfo and Rouveret 1992: 368-369). Tomb 197 Gauda had a triple-disc cuirass (T21) with type 4A clasps on the side-plates and a belt (B70) with type 4B clasps (fig.50.3). In tomb 136 Gauda, cuirass (T23) had side-plates with type 2B clasps although the belt found with it was the elaborate type 9, of a lion lunging on a stag (Cipriani and Longo 2000: 204-205). Paestum, however, is one of the few sites in which the cuirasses and belts are found together and are relatively complete. It is often the case that triple-disc cuirasses are found without side-plates and many from older collections do not have a belt with them.

In Pescara and Alfedena however, the type 1 Alfedena cuirass is often found with a type 8, belt clasp. The hooks on the side-plates of the type 1 cuirasses are quite simple compared to later examples and do not have any Greek-style decorative motifs. This is

also notable on the type 8 clasps which are integral to belt band. Here the decorative motifs are incised geometric patterns which are similar to those found on the reinforcing strips of the type 1 triple-disc cuirass. This evidence strongly suggests that the type 1 cuirass was associated with the type 8, belt clasp. The similarity of the belt and cuirass clasps suggests that at least some of these panoplies were manufactured and assembled in the same workshop. Manufacturing clasps for use with a cuirass simply meant that the hook was turned upwards so that the prong would face away from the warriors body when it was fastened.

In Berlin there is a bronze matrix used for stamping small decorative plaques, which has been attributed to 4<sup>th</sup> century Etruria (Yu 1994: 1-4). On one side of the matrix are an assortment of rosettes, winged Nikes and female heads. The other side has two figures of Scylla, the sea-monster (fig.51.1). It is fascinating that the panoply found at Laos dated 320-300, includes a bronze belt (B161) decorated with three Scylla figures in silver, identical to those found on the matrix (fig.51.2). The bronze matrix shows a lot of scratches and evidence considerable wear which suggests a large number of the decorative plaques were made. A number of other silver plaques have been found on other belts and were undoubtedly made the same way. At the British museum is a silver plaque of a palmette which has been attached to a type 8A clasp, giving it a body identical to a type 3 clasp (fig.51.3). The Karlsruhe Landesmuseum has almost identical silver palmettes attached to a belt which has no hooks (fig.51.4). This evidence provides some insight in how south Italic armour was constructed and assembled. There was a close association in the manufacture of belts and cuirasses which were probably constructed in the same workshops and produced as matching pieces of a panoply.

The bronze belts are one of the few items of equipment from the south Italic panoply which have been metallurgically analysed. Examination of the clasps revealed these had been made from leaded bronze which indicates they were most certainly manufactured by casting. The belt bands on the otherhand were made from unleaded bronze, which had been hammered thin (Craddock 1986: 43). Craddock's analyses of the metal found 'the incidence of measurable cobalt is high, but once again comparable with that found in Etruscan bronze and suggests that the same source of copper, almost certainly from Tuscany was used' (Craddock 1986: 43). This is an extremely interesting

revelation when one considers the origins of the raw materials needed for producing military equipment in a part of Italy that is largely devoid of metals and gives some insight into the manufacture and distribution of arms and armour.

### **5.9. Distribution and chronology of bronze belts**

The bronze belts featured in this brief study range in date from the 5<sup>th</sup> to 3<sup>rd</sup> centuries. This two-century period seems to have been the high point in usage of these belts, as they largely vanish from the archaeological record abruptly after the establishment of Roman hegemony in Italy during the first quarter of the 3<sup>rd</sup> century. It is evident, however, from the 8<sup>th</sup> century example at Pontecagnano and other earlier belts from Canosa and Troccola, that prototypes were in use from an early date. The distribution map of bronze belts and clasps illustrated here is taken from Suano's 1986 publication, which she again reused in 2000 (1986: 30). This is the most comprehensive spatial analyses of these belts and is far more informative than a map of the present sample of would have been. Although Suano's map must be updated it is beyond the scope of the present work. The three concentrations of finds are defined as areas A, B and C (Suano 1986: 28, fig.52). Area A is bordered by the rivers Pescara to the north, Fortore to the south and the Volturno to the south-west. Area B is bordered by the rivers Volturno to the north and the river Sele to the south. Area C is defined by the river Cervaro to the north and the region near Ruvo and Canosa along the Adriatic coast to the south. Perhaps one of the most interesting aspects of this distribution is the absence of finds from the central Apennine region between the areas A, B, and C. This blank area corresponds to the heartland of Samnite territory and it seems ironic that so few belts should have been found here considering how closely it has been associated with them. It is likely however, that this lack of evidence has more to do with where archaeological investigations are being conducted.



## Chapter VI: The *aspis*, *scutum*, *pelte*, *ephaptis* and variant type shields

### 6.1. Shields in Southern Italy

A wide variety of shields were used in southern Italy during the 5<sup>th</sup> to the 3<sup>rd</sup> centuries, these include the *aspis*, *scutum*, *pelte* and several variant types. A large amount of material has been written on the development and use of the Greek *aspis*, and the Roman republican *scutum* (Snodgrass 1967: 53-58; Connolly 1981: 51-54, 131-132; Bishop and Coulston 1993: 58-59; Feugere 2002: 76-78). Discussion of the *aspis* and *scutum* in southern Italy is usually viewed in the corresponding contexts of Greek influence and Roman domination. Likewise, the development of the shield has been seen as a progression from the *aspis* to the *scutum*, and often equated with the transition from the hoplite phalanx to the legionary maniples. There has been little mention made of the different variant type shields, which regularly appear in south Italic iconographic sources. This chapter examines these variant shields and their chronological context to better understand their role and development within the south Italic panoply and how they relate to the better illustrated and documented *aspis* and *scutum*. Another seldom mentioned shield in Italy is the *pelte*, which appears in representational sources although much less often than other types. Although not technically a shield, the *ephaptis* has also been included in this study. The *ephaptis* was a cloak which was wrapped or draped over the arm as an expedient form of protection. In practice it fulfilled a similar role to the shield and is represented in numerous tomb and vase paintings in both hunting and martial contexts.

Although the shield has always been considered the warrior's primary means of defence it seldom receives the attention that other forms of protection attract, such as the helmet and body armour. Part of this bias is due to the fact that there is very little archaeological evidence for shields in southern Italy. The shield does not seem to have been an item of the panoply that was normally included in burials. Perhaps its large size or awkward shape prohibited its inclusion in many tombs. Poor preservation is also a factor as most shields were constructed largely from perishable materials, such as wood, leather and wicker, which rarely survive in the archaeological record. It may also happen that the small metal fittings, which are not readily identifiable as parts of a shield are sometimes overlooked or misinterpreted. Only with the Greek bronze hoplite shield, the

*aspis*, do we find a substantial amount of archaeological remains, but even these are uncommon. The evidence for other types of shield in southern Italy is limited to depictions in tomb and vase paintings, and to a lesser degree what is said in literary sources.

The lack of archaeological evidence from which to compare with the iconographic record makes it quite difficult in studying the non-hoplite shields. Depictions of warriors were often highly stylised and followed a particular format, which frequently gives only a partial view of the shield, such as in profile or straight on. Thus in profile it is difficult to determine the true shape of the shield and its diameter or length-width ratio. While full frontal depictions may give a fairly reliable idea of a shield's general shape they mask important technical details such as handgrips, armbands and fittings. It is also true that ancient artists often had difficulty in rendering objects in perspective and depending on the medium the curvature of the shield might not be evident at all. It is extremely difficult to interpret how a shield was constructed, or with what types of materials from an illustration alone.

In some cases the actual dimensions of the equipment may not be accurately depicted. The artistic convention of reducing the size of arms and armour to show more of the human form gives an unrealistic impression of the equipment's proportions, which is difficult to redress without archaeological evidence or literary accounts giving detailed descriptions and measurements. Although Trajan's Column is an example that is outside the chronological framework of this study it is useful in providing a clear and well-illustrated parallel of this convention. The column shows the size of the soldier's cheek pieces and shields have been purposefully reduced to give a clear view of the face and the body (Bishop and Coulston 1993: 20). Fortunately, it seems that most south Italic paintings rarely used this convention when depicting arms and armour. One of the benefits of using tomb paintings as a source of evidence is that they depict equipment in full colour. If it can be determined what colour conventions were being used to represent different types of material it might be possible to determine how a shield was constructed. These paintings also illustrate how colourful and decorative the blazons on these shields could be.

## 6.2. The *aspis*

The *aspis* is the most commonly depicted shield type in tomb and vase paintings from the coastal regions of southern Italy. It was a round, slightly convex shield with a flat rim, which had a diameter of around 80cm to 1m. The shield was constructed from a hard wood core, usually of oak or poplar. Connolly cites an Etruscan example from the 4<sup>th</sup> century at the Vatican museum which had a wood core 0.5mm thick at the centre (Connolly 1981: 52-53). The wooden core was sometimes covered with leather or a thin sheet of bronze usually less than a millimetre thick. The Chiaromonte example from tomb 652 dated to the early 5<sup>th</sup> century, has a bronze facing and rim which was found in excellent condition (fig.54.3-4). The *aspis* was carried by means of a central bronze armband called the *porpax* and a flexible handgrip of leather or rope on the inside rim of the shield known as the *antilabe*. The arm passed through the *porpax* and grasped the *antilabe*. Carrying the shield in this manner allowed its weight to be distributed over the shoulder and forearm. The weights given for these shields are based mostly on reconstructions and have been cited by Connolly at 7kg., Sekunda 6.5kg. (Connolly 1981: 53). Jarva states that the metal parts to a Greek shield at Basel and an Etruscan example in the Vatican Museum weighed 3 to 3.5kg., without the wooden core (Jarva 1995: 134). Connolly noted that after constructing a replica *aspis* the natural curve of the bowl rested snugly over the left shoulder. This design feature helped to reduce the amount of weight on the arm and would have enabled the warrior to carry the shield for greater periods of time (Connolly 1981:53-54).

The round hoplite shield, or *aspis*, was probably introduced into Italy from Greece during the 7<sup>th</sup> century, although it does not start to appear in Italic tombs until the 6<sup>th</sup> century (Herring 1991: 126-128). Examples from Vibo Valentia (S13), and Noicattaro (S14) are dated to the second quarter of the 6<sup>th</sup> century. While a shield from tomb 76 in Chiaromonte (S15), dated to the second half of the 6<sup>th</sup> century, as well as a bronze blazon of a chimera from Melfi, tomb F (S1). Compared to other items of equipment from the south Italic panoply relatively few examples of the *aspis* have been uncovered from burials. At present there is evidence for a total of 11 shields from south Italic contexts. Four examples consist of the bronze shield facing and the *porpax*: Chiaromonte (S4) and (S5), Braida di Vaglio (S7) and (S8), Lavello (S9) and (S10), and the Ex-Guttmann

collection (S11) and (S12). While two other shields are of just the bronze facing: Chiaromonte (S15) and Noicattaro (S14). Another two shields are represented by the *porpax*: Banzi (S6) and Vibo Valentia (S13). The presence of the final three shields are indicated by bronze blazons: Melfi (S1), Swiss collection (S2) and Ruvo (S3, fig.55.1-3).

In Banzi only the *porpax* was found in tomb 545 dating to the 6<sup>th</sup> century, which demonstrates that not all of these types of shield were covered in bronze. The *aspis* from the Guttmann collection had a diameter of 88cm with a rim 5cm wide (S8, fig.53). The depth of the bowl was 9cm, while the *porpax* measured 20cm long by 11.5cm wide. Some examples of the *porpax* are much longer and traverse the inside diameter of the shield's bowl. The *porpax* from Chiaromonte (S5), and that from Banzi (S6) both measure 80cm long by 5.5cm wide. The central armband from Braida di Vaglio (S8), was 75cm long by 10.5cm wide. The *porpax* was often decorated in repousse with palmettes, figures and other motifs. Central armbands from Olympia come in both broad and narrow varieties. The broad examples tend to be earlier than the narrow type, although in Italy this may have taken longer.

Bronze decorative blazons could also be applied to the face of the shield. These were usually cut out from sheet bronze into the shape desired and detailed with incisions and raised metal work. Two examples have been found in Apulia, a chimera from Chiaromonte (S1), and a boar from Ruvo (S2). Both of these creatures are rendered in careful detail and show a high degree of skill went into creating them. An unprovenanced blazon in a Swiss collection is of a warrior on horseback (S3, fig.55). The outline of his helmet crest and feathers can be discerned as well as his broad belt clearly indicating this is a south Italic warrior. The crest and feathers are very similar to those depicted on Campanian vases and points towards this region as a likely place of origin. Holes along the edges of these blazons indicate that they were secured to the shield by small nails or tacks. A wide variety of shield devices and blazons are depicted in representational sources, and these will be discussed in greater detail later in this chapter.

### 6.3. Functional aspects of the *aspis*

This type of shield, or more probably the method of carrying it, may have originated in Asia Minor. Herodotus states that the Carians were the first to start 'putting



designs on shields. They were also the first to attach handles to shields. Before them, everyone who used a shield carried it without a handle – he would manoeuvre it with a leather strap wrapped around the neck and shoulder’ (Herodotus 1.172). The *aspis* was probably adopted by the Greeks at the end of the 8<sup>th</sup> or beginning of the 7<sup>th</sup> centuries and spread westward to those Italic peoples that had frequent contact with them. The *aspis* was held relatively close to the body and was designed primarily to stop spear thrusts and other hand-held weapons. The shield’s double grip carrying arrangement also gave the warrior much better control than previous types which relied on a single handle or shoulder strap. The double grip would have been a great advantage in hand to hand combat, where it was vital to keep the shield in front of the body and not have it knocked aside or pulled from one’s hands. By having the shield rest on the forearm the *porpax* permitted the warrior to use his left hand when necessary. This is clearly illustrated in tomb and vase paintings where warriors are depicted grasping numerous things while still using the shield. A painting from Paestum tomb 58 Andriuolo, dated 340-330, shows a cavalryman holding the reins of his horse while the *porpax* of his shield rests on his forearm (WP3, fig.84). On a Campanian amphora circa 375 a warrior is shown scaling a city wall by ladder with his shield held above him while also holding an axe with the same hand (fig.71, J.P. Getty Museum inv.92.AE.86). A Campanian *krater* from Montesarchio, tomb 1005, dated 350-330, shows a warrior grasping an extra javelin in his shield arm.

The *porpax* and the convex shape of the *aspis* enabled the warrior to put his entire weight behind the shield, using it to push against the enemy and break up his formation. Among the Greeks this tactic of pushing against the enemy with the shield was known as *othismos*, or the shoving. Van Wees however, has offered another interpretation of the *othismos* as he believes this was a tipping manoeuvre with the bottom edge of the shield, meant to unbalance the enemy’s own shield (Van Wees 2000: 125-131). I am sceptical of this technique, especially in mass combat, where it is simple movements, which require little thought that are most effective. Tipping the bottom edges of shields would require the warrior to concentrate on executing this tricky manoeuvre while fighting. It would also require the enemy to comply and do the same with his own shield. Most importantly the central location of the *porpax* and handgrip arrangement would have

provided very little leverage to the bottom edge of the shield. The design of the *aspis* with its deep bowl and central two point carrying arrangement was ideally suited to support a full body shove.

Although ideal in close combat, the *aspis* provided limited protection against troops armed with bows or javelins. When faced with enemies whose primary weapons were missiles, warriors equipped with the *aspis* attempted to compensate for this vulnerability mainly by strategies of trying to close with the enemy as quickly as possible. In some instances younger troops were detailed to run out from the ranks of the phalanx and drive off enemy light troops. But these field expedient remedies were situational and the inability of the *aspis* to protect the warrior from light-armed missile troops was clearly recognised. A modification to the *aspis* was the shield-apron which appears in representational sources around the time of the Persian wars. The shield-apron was a leather or fabric skirt attached to the bottom edge of the shield to obscure the legs and hinder the flight of missile weapons. This would hopefully increase the protective value of the shield without increasing its weight by a great deal. Jarva cites shield aprons of woven material weighing around 0.5kg. while those of leather up to 1 kg (Jarva 1995: 134). The shield apron is rarely depicted in south Italic art, although there is an example from Paestum, tomb 28 Andriuolo, 330-320, which shows warriors who have folds of fabric hanging down from the bottom of their shields (WP6). These 'shield aprons' may in fact be the *ephaptis*, or wrap, which is discussed in the last section of this chapter.

#### 6.4. Variant type shields

A much neglected category of shields are those depicted in tomb and vase paintings, which I have classified as variant types. There are no archaeological remains of the variant type shields. Literary sources, however, allude to these shields and their construction, although one can never be certain this is precisely the type of shield being described. A large number of these depictions come from Paestan tomb paintings, while others are found on Campanian, Lucanian and Apulian vases. These are sometimes depicted in duel scenes in which warriors, who are quite clearly using the *aspis*, are shown fighting adversaries with an unidentified type of shield (WP1 fig.83, WP23 fig.87). In other scenes they are found being carried by returning warriors as trophies. The earliest depiction of a variant shield comes from an Apulian vase dated from 420-410

and the latest is a Paestan tomb painting dated 330-320. This gives a time span for these shields of roughly 100 years, although in actuality their use may have been over a much longer period.

Variant shields are always depicted in profile, making it difficult to determine if they are circular, oblong or some other shape. I am of the opinion they are depicted this way on purpose, so there is no way of identifying which type of shield is being represented. In some instances the inside edge of the shield is visible, when it is being carried as a trophy or if it is held grounded. These shields are characterised by the lack of a rim and their pronounced centre, which rises to a pointed or rounded apex. The colours used to depict these shields in tomb paintings are often a yellowish brown or a light beige, which seems to indicate they were made from some type of non-metallic material, perhaps leather or hide. They are clearly different in colour from bronze equipment, such as helmets, armour and belts, which are depicted as yellow. In many instances an attempt has been made by the artist to render the contours or texture of the shield's surface, usually creases radiating from the centre or a series of concentric dots. Another feature, which may pertain to the shields construction are dots along the outer edge of the shield. These might represent the wicker struts from which the shield was woven. Without an actual example, however, we can only hypothesise about the materials and method of construction the artist was trying to represent.

An interesting comparative detail, which may give some insight into the method of the variant shield's construction, comes from depictions of women's parasols on red-figure vases of the same period (fig.56.9, Trendall 1967: 34/367). The shape of the parasol is sometimes the same as the profile of the variant shields and it appears that the struts on which the parasol's fabric is stretched over is rendered in a similar manner. In literary sources there are references to shields made of wicker frames which hides are stretched over. Florus states that Spartacus' army while in Campania, 'made themselves rude shields of wickerwork and the skins of animals . . .' (Florus II.8). Virgil wrote in the *Aeneid* that south Italic warriors prepared for war by making arms, armour and to 'weave the wicker-frame of shields' (Virgil VII.631). In another passage Virgil describes Oscan-speaking warriors equipped with 'leather bucklers' (VII.730-33). Although these details may seem like fanciful anecdotes Virgil drew much of the imagery for his poetry from

earlier Italic traditions, which probably had a basis in actual practice. This corresponds with Servius' statement that the Lucanians used shields made of osiers covered in hide. It therefore seems likely that the variant shields depicted in tomb and vase paintings were made of a frame of osiers or wicker covered in hide or leather.

### 6.5. Typology of variant shields depicted in representational sources

The iconographic record shows a number of different variant shields and these have been classified into a typology according to their shape and distinctive features (fig.56). A large proportion of the variant shields discussed are derived from Paestan tomb paintings. These depictions are in colour which help to determine what types of materials were used in making these shields. A smaller number of Apulian, Campanian and Lucanian vases also depict variant shields. Despite their limitations, depictions of shields from vase paintings are often surprisingly detailed and appear to be more carefully rendered than those from tombs. While recognising the shortcomings of having to rely on representational sources as evidence for actual pieces of equipment I have estimated the height of variant shields by comparing them with the bodily proportions of the warriors depicted. Measurements are based on those of a male 165cm tall, which seem typical of most south Italian males. While it cannot be proved conclusively that these are accurate dimensions for these shields they at least give an estimate of their possible sizes. A greater degree of reliability might be expected from those paintings in which an *aspis* of the correct proportions is also depicted.

**Type 1 pointed apex (fig.56):** this shield is depicted on a number of Paestan tomb paintings being carried by returning warriors as a trophy (WP14) and (WP32) or being used by duellists (WP1, WP5, WP25, WP29). All of these paintings date from 380-360. There is also a Lucanian nestoris at Berlin, dated 360-320, which shows this type of shield being used by a warrior with a sword against another armed with an *aspis* and spear (Schneider-Herrmann 1996: pl.94b). The type 1 is shown in profile and has an elongated triangular shape, which is sometimes curved upwards slightly on the ends. The centre of the shield rises to a pointed apex. In a few paintings, such as those suspended as trophies, the far edge of the shield can be seen and seems to suggest it had an oval rather than round shape. This shield is usually painted a light yellow brown colour and is



covered in small dots or flecks which appear to be an attempt to render an uneven texture. The colour makes it seem that this shield was constructed from a non-metallic material. In paintings it is depicted marginally smaller than the *aspis* and is shown from the shoulder to the mid thigh, which gives this shield a length of around 65cm.

**Type 2 three prong apex (fig.56):** is depicted in a Paestan tomb painting (WP23) dated 360-350. This shield is similar to the type 1, but is coloured white with grey streaks radiating from its centre. The profile shows the upper and bottom edges are straight, while the shield is pointed in the centre from which there is a projection of three strands (of wicker?) at the apex. This is a technical detail which is repeated in many different representations of this shield and must somehow relate to the way it was constructed. The proportions of the type 2 shield are slightly larger than the type 1, measuring from the shoulder to a point above the knee approximately 70cm.

**Type 3 rounded apex (fig.56):** This shield is depicted in a Paestan tomb painting dated 350-340 and is carried by a pair of charging duellists (WP27). It shares similarities with both types 1 and 2 but has a rounded apex. The shield also appears to have bands of concentric dots. By the manner in which the warrior holds extra javelins horizontally in his left hand it would appear the shield has a central handgrip. An Apulian krater in New York, dated 400-380, shows two warriors armed with spears and wearing the *perizoma* (loincloth) (Trendall and Cambitoglou 1978: 3/61). They are both equipped with the rounded apex shield, which measures from the ground to the upper thigh to a height of around 75cm. This is only 10cm shorter than the diameter of the *aspis*.

**Type 4 Creased (fig.56):** This shield is depicted on a Paestan tomb painting of a duel, dated 350-340 (WP2). The manner in which the artist has depicted the shield seems to show creases radiating from a raised central bump and is suggestive of a hide or fabric covering stretched over an internal framework. The colour of the shield is light beige. It is possible that this shield had a central handgrip as the central bump indicates and the manner in which the javelins are also held horizontally. Another example of this type shield is found on an Apulian vase at the British Museum, dated 420-410 (Schneider-

Herrmann 1996: pl.7). The shield is grounded and reaches as high as the warrior's thigh, which measures to approximately 70cm.

**Type 5 Comic (fig.56):** This shield appears in profile and curves sharply upwards at the top and bottom. In the centre, the shield rises up to a very pointed apex. It is most similar to the type 1 in shape and seems to be an exaggerated version of this shield. There is only one example of this shield, which is depicted on a Campanian *krater* from the British Museum. It is decorated with a row of dots along the outer edge of the shield and may in fact represent the ends of protruding struts. Taking into account this is a comic vase depicting a diminutive warrior carrying an enormous shield it would seem the dimensions are nearly three times the size of a normal variant type. The artist clearly understands the grandiose parody he has created, as a normal proportioned warrior with an *aspis* is also present. The shield is also decorated with three concentric lines around the apex, which have lines of dots between them. There is also a wave-pattern band on the outer edge of the shield. These embellishments may also be a parody as they mimic those found on the *aspis* of the other warrior and so far this is the only variant shield, which is decorated with any sort of motif.

**Type 6 Dot apex (fig.56):** The shield is depicted on a Campanian vase in Berlin and dated to the end of the 4<sup>th</sup> century (Weege 1909: 147). It is carried as a trophy by a returning warrior and appears in profile curving up at the ends. In the centre it rises gently to a pointed apex to which there is a dot on top. Similar dots line the edge of the shield and some of these join up with lines, which transect the body of the shield and so may well represent struts. This shield most closely resembles the parasols carried by ladies which often show the lines under the fabric concealing the struts. The depiction of this shield suggests an uneven texture but with a rigid shape. The type 6 shield measures from the top of the head to the mid thigh to nearly 90cm. Excluding the exaggerated size of the type 5 from the comic vase this is the largest variant shield and is similar to the dimensions of the *aspis*.

### 6.6. Summary of the variant type shield

The variant shields represent a tradition of native Italic shield making that was not entirely replaced by the introduction of the Greek *aspis*. Undoubtedly there must have been differences in the variant shield types between regions and over time. These illustrations seem to indicate a non-metallic shield of composite construction, incorporating different materials to produce a more resilient and durable form of protection. The literary references to wicker and hide shields helps to add weight to the interpretation. In southern Italy these light variant shields were probably an adequate form of defence against the light throwing weapons of most enemies and were perhaps used by less affluent warriors. It is likely that the variant shields found more widespread usage than the representational sources would suggest. Examination of the depictions of these shields seem to indicate an increase in their size over time, from around 60-65cm for the type 1 at the beginning of the 4<sup>th</sup> century to 80-90cm for the type 6 at the end. By the end of the 4<sup>th</sup> century both the *aspis* and the variant shields were being displaced by the oblong or oval *scutum*.

### 6.7. The Italic *scutum*

It is clear from representational evidence that the *scutum*, and variations of this design, had been in use in Italy since Archaic times. Polybius' 2<sup>nd</sup> century description of the Roman heavy infantry panoply includes the earliest and most descriptive account of the *scutum*. He states,

'The Roman panoply consists in the first place of a long shield (*scutum*). The surface is convex; it measures two and a half feet in width and four feet in length, and the thickness at the rim is a palm's breadth. It consists of two layers of wood fastened together with bull's hide glue; the outer surface is then covered first with canvas and then with calf skin. The upper and lower edges are bound with iron to protect the shield both from the cutting strokes of swords and from wear when resting on the ground. In the center is fixed an iron boss, which turns aside the heavy impact of stones, pikes and weighty missiles in general' (Polybius VI.23).

Polybius' description of the Roman shield compares favourably with the measurements of the *scutum* found at Kasr el-Harit in Egypt, dated to the 2<sup>nd</sup> century during the Ptolemaic era. The Egyptian shield measured 1.28m long by 0.635m wide, and was constructed from three layers of wood strips, covered on both sides by lamb's

wool felt (Bishop and Coulston 1993: 59). It is unlikely, however, that the *scutum* existed in the 4<sup>th</sup> century as Polybius knew it in the 2<sup>nd</sup> century. By this time the Romans had been using the shield for nearly 200 years before Polybius first observed it, and they would have had ample opportunity during that time to introduce various modifications and improvements. Considering the largely decentralised nature of equipment manufacture it would, in fact, be quite surprising if they did not.

Livy states that during the Latin war of 340, 'The Romans had formerly used round shields; then, after they began to serve for pay, they changed from round to oblong shields; and their previous formation in phalanxes, like those of the Macedonian army, afterwards began to be a battle-line formed of maniples' (Livy VIII.8). The change from round to oblong shields is often assumed to have occurred during the siege of Veii at the beginning of the 4<sup>th</sup> century, when it is recorded that Roman soldiers first received pay. But Livy's claims are unconvincing for the Roman adoption of the *scutum* at such an early date. The adoption of the *scutum* would have had far-reaching tactical implications and were unlikely to have occurred all at once or without some incentive linked to this shields perceived advantages. The literary tradition provides close links with the Samnites and the *scutum*. Some sources even stating explicitly that they had learned the use of javelins and the oblong shield from the Samnites. 'The Samnite oblong shield was not part of our national equipment, nor did we have javelins, but fought with round shields and spears . . . But when we found ourselves at war with the Samnites, we armed ourselves with their oblong shields and javelins . . . and by copying foreign arms we became masters of those who thought so highly of themselves' (*Ineditum Vaticanum*, trans. Cornell 1995: 170).

Even though Livy includes the *scutum* as part of the Samnite panoply, he differentiates it from the shield Romans were familiar with in the 1<sup>st</sup> century. He states 'the shape of their shields was this: the upper part was quite broad where it protected the breast and shoulders and had a smooth rim, while the base was tapering, for easy handling' (Livy IX.40). There has been much speculation over Livy's description of the Samnite *scutum*, and some scholars have attempted to make dubious representations fit this peculiar trapezoid shape (Sekunda 1995: 36-38, pl.F). There is, however, no clear representational, archaeological or corroborating literary evidence for this shield.



Although one example depicted on a Campanian vase in the Louvre seems to be diamond shaped (Schneider-Herrmann 1996: pl.105). In no instance do we find the flat-topped tapering shield described by Livy as being carried by Samnites. This may not be surprising however, since all of the depictions of the *scutum* come from the coastal regions of Campania and Lucania. It is possible that the trapezoidal Samnite *scutum* may have been a regional variation for which no representation or physical evidence has survived, but this seems unlikely. Most literary sources describe the Samnite shield as oblong shaped. Dionysius states that at the battle of Asculum the Samnites were 'equipped with oblong shields' (Dionysius of Halikarnassos VII.23). None of these sources, which describe the shape of the Samnite *scutum*, ever allude to it being convex.

Depictions of the *scutum* from southern Italy first appear in tomb and vase paintings around 340–330 and are most often from Campania (fig.57). In a tomb painting from Capua, dated 330-320, a cavalryman carries a yellow *scutum* as a trophy (Bennasai 2002:192). The shield is ovoid in shape and has a *spina* but no rim and is decorated with six small black crosses. It is interesting that Livy states that the Samnite *scutum*, 'had a smooth rim' (IX.40). In a later Capuan painting, dated 300-290, an infantryman is depicted with a white oval-shaped *scutum* with a *spina* and wide rim (Bennasai 2002: 208). A similar type shield is carried by an infantryman from Nola, dated 310-300, it is white with a *spina*, but has dots along the rim (Boriello and De Caro 1996: 252-253; Bennasai 2002: 207). Perhaps these dots are meant to indicate stitching. In Paestum this type of shield does not appear in iconographic sources until the beginning of the 3<sup>rd</sup> century. A painting from tomb 1, Spinazzo necropolis, dated 300-280, shows a warrior carrying a white oval *scutum* with a black rim (Pontrandolfo and Rouveret 1998: 70-71).

The length of the shield depicted in paintings appears to be from the shoulder to a little below the knee, which approximates from 100-110cm. These measurements are 10-20cm shorter than the shields described by Polybius and found in Egypt. The width of the south Italic *scutum* seems to be marginally narrower than those from the 2<sup>nd</sup> century. The *scutum* is almost always depicted frontally, which seems to be a conscious decision on the part of the artist to display its distinctive oval or oblong shape which would have been recognised immediately. Rendered in this manner the shield appears to be flat not

convex as Polybius describes. Peter Connolly has suggested the possibility that ancient artists sometimes had trouble showing perspective in paintings, thus a shield that had a convex shape might be depicted as flat (Pers. comm. July 2002). There are however, figurines from southern Italy dating to the late 4<sup>th</sup> to early 3<sup>rd</sup> centuries, which show warriors carrying a flat *scutum*. In Rome there is a bronze figurine with a tunic, spear and flat *scutum* (Villa Giulia inv.24500). From Venafrò there is a terracotta figurine of a warrior with a Montefortino helmet who is advancing with a *scutum* held before him (fig.57, *Sannio* 1980: 366-367). This shield is identical in shape to those depicted in paintings from Capua, Paestum and Nola, and it is flat.

A Campanian *hydria* presents a scene in which two warriors laden with trophies are escorting a bound prisoner (Schneider-Herrmann 1996: pl.118). It is intriguing that one of the warriors carries a *scutum* as a trophy, which has been depicted to show the inside of the shield (fig.57). The shield is oblong shaped with vertical lines that seem to represent strips or planks of wood. In the centre of the shield is a vertical handgrip. Another depiction of the inside of an early *scutum* comes from the obverse side of a Roman currency bar, at the British Museum, which is dated to the beginning of the 3<sup>rd</sup> century. The shield has a reinforcing strip around its outer rim and what appears to be horizontal and vertical struts running across its width and length. The ends of the struts branch out at the shield rim providing further support. In the centre of the shield where the struts intersect there seems to be some sort of grip, although the poor quality of the casting makes it impossible to tell if it is horizontal or vertical.

### 6.8. Summary of the south Italic *scutum*

Most south Italic *scuta* have an oblong or oval shape with a *spina* running down the centre of the shield. A tomb fresco from the Esquiline in Rome, dating to the early 3<sup>rd</sup> century, is believed to depict a scene from the Samnite wars. The painting shows a Samnite commander, Fannius carrying a large oblong *scutum*. The poor condition of the painting makes it difficult to discern any details of the shield for certain. Having examined this painting closely, it appears to the writer that there is a *spina*, although it is so faded I could not tell if the shield is convex or flat. Still, this depiction does nothing to support Livy's description of the Samnite shield. The *scutum* underwent many

alterations and modifications over its centuries of use by the Romans and other Italic peoples. The first evidence which bears any resemblance to Livy's Samnite *scutum*, comes from a bas-relief sculpture found in Amiternum near Aquila, dating to the 1<sup>st</sup> century BC (Connolly 2003: 80). It depicts gladiators using trapezoidal shields similar to those that Livy attributes to Samnite warriors. Considering the present lack of evidence for trapezoidal *scuta* in the 4<sup>th</sup> century it appears that Livy is trying to link the equipment of 'Samnite' gladiators in the 1<sup>st</sup> century with that of earlier Samnite warriors.

### 6.9. Chronology of the *aspis*, *scutum* and variant shields:

Tomb paintings from Paestum and Campania provide some insight into the chronological sequence and development of different shield types in southern Italy. The *aspis* is the most commonly depicted type and is found in tomb paintings from the late 5<sup>th</sup> to the early 3<sup>rd</sup> centuries. Variant type shields first appear from the late 5<sup>th</sup> to the last quarter of the 4<sup>th</sup> century. The oblong or oval *scutum* begins to appear in tomb paintings from Capua and Nola during the last 30 years of the 4<sup>th</sup> century, and in Paestum at the beginning of the 3<sup>rd</sup> century. The arrival of the *scutum* in south Italic iconography coincides with the disappearance of the variant type shields and the *aspis*. The variant type shields may have represented an Italic tradition of shield making that was not entirely replaced by the *aspis*. It is also possible that these shields bridged a gap by providing a low cost local alternative. Spartacus' army production of wicker and hide shields show these could be produced quickly using readily available materials that required little specialised expertise or tools. The variant type shields seem to have been oval or oblong shaped with a central handgrip and a raised centre or umbo, they would have had the basic functional features that were characteristic of the *scutum* but were probably not as robust. The differences between the *scutum* and the variant type shields seem to be in their smaller size, the lack of a reinforcing rim and central *spina*, and perhaps the use of wicker instead of wood.

### 6.10. The *ephaptis*

The *ephaptis* is a form of improvised protection that has received little mention, probably because it has never been regarded as military equipment. Yet it is depicted in

not only hunting scenes but in combats between warriors as well. The *ephaptis* was a cloak, which was draped over or wrapped around the left shoulder and arm. It is also found on Greek representational sources although alternatives to the cloak might be an animal pelt or a *petasos*, a type of sun hat. The cloak is sometimes fastened at the neck to hold it in place and could also be balled around the fist to prevent it from falling away. The *ephaptis* could not have afforded a great deal of protection against direct blows and thrusts. In close fighting the *ephaptis* might have been used as a matador uses the *muleta*, the heart shaped cape used to confuse and distract the bull into a more convenient position for a kill. Indeed in some hunt scenes, such as those against animals likely to charge, such as wild boars, the *ephaptis* may have been used in a similar manner. An Apulian krater in Boston shows a mythological scene, in which a hunter prepares to cast a javelin at the Calydon boar (fig.58). The hunters' left arm is swathed in his cloak, with a small portion left dangling. In cases where the quarry was a deer, perhaps the cloak was used to drive the animal in a certain direction by flourishes. Several tomb paintings from Paestum, dating from 380-350, show a very stereotyped depiction of a stag hunt (WP4, WP9, WP15). The hunter pursues the stag with a raised javelin, while having the *ephaptis* draped over his left arm. In combat cloaks that were used as improvised shields might be more useful against missile weapons where it is used to obscure the body from being hit. Waving the *ephaptis* back and forth might also have enabled the warrior to deflect or bat aside missile if done skilfully. A Paestan tomb painting, dated 340-330, shows two warriors, one protected by the *ephaptis* the other an *aspis*, throwing javelins at one another (WP3, fig.83). In another painting from Paestum, dating 360-350, a warrior with an *ephaptis* draped over his arm lunges triumphantly at a wounded enemy whose leg is pierced by a javelin (WP24, fig.87).

In some instances the arm which is protected by the *ephaptis*, also wields a spear or javelin, as is depicted on a Lucanian *krater* at the Louvre, dated 370 (fig.58). In this painting the warrior uses the *ephaptis* and spear combination in the left hand while wielding a sword in the other. The *ephaptis* used with a spear enables the warrior to both parry and deflect blows, as well as to thrust and slash with the spearhead. In this case the spear is often held near the spearhead facilitating its use defensively and in close combat. This style of fighting is always depicted in the context of duels. There is to my



knowledge no reference of the *ephaptis* being used in battle from literary sources. Any advantages that could be had from using this type of defence could probably only be exploited in a situation where the warrior's agility could be optimised without having to worry about others, such as in a duel or skirmish. The protection offered by the cloak should not be regarded as worthless; after all the arms and legs of gladiators were wrapped with linen bandages, and the *ephaptis* probably provided a similar, if somewhat more expedient defence.

### 6.11. South Italic shield devices

The blazons examined in this section pertain to those found on the *aspis*, as depicted in tomb and vase paintings. Other types of shield appear to have been left unadorned for the most part. The *scutum* is usually shown white and variant types are coloured yellow brown or beige. There are some exceptions, one being a *scutum* depicted on a Capuan tomb painting that is carried as a trophy. This shield is yellowish brown with four small x's on either side of the *spina*. Another is the comic variant shield already discussed as the type 5, which is highly decorated with concentric circles, dots, and a wave pattern, but this is probably an exaggerated caricature. The *aspis* is the shield most commonly decorated with blazons and many of these seem to be adopted from the Greeks. Currently, very little has been written on the subject of shield devices. A study written over 100 years ago looked at a catalogue of 268 Greek shield devices and attempted to categorise their possible meanings (Chase 1902). Sekunda recently examined two of these categories, family and state devices found on Greek shields, in a brief article for a popular magazine (Sekunda 2000b).

As sparse as this research is on the Greek material there is currently no similar treatment of the south Italic evidence. To provide a starting point for what could certainly become a much more detailed study I have compiled and examined a small catalogue of 60 shield devices from south Italic tomb and vase paintings. It should be stressed that the divisions of Lucanian, Apulian and Campanian shield devices are artificial, based upon the categories of vase paintings established by Trendall and Cambitoglou (1967 and 1978). It would be unwise to regard them as representative of a particular political entity, although theoretically these devices may have had a certain

resonance in the regions where the pottery was manufactured. Only those devices from Paestan tomb paintings can be attributed to a specific site with any certainty. One of the problems with these shield devices is trying to determine their significance. Do these designs represent affiliations with tribes, city-states, patron deities, familial emblems? Or are they a matter of individual preference, as a means of identification on the battlefield, perhaps even as a charm to bring good luck, ward off evil or intimidate an enemy?

Unfortunately, the literary sources say very little about the use of shield devices by the south Italic peoples. Livy mentions that the Samnites' shields were painted and inlaid with gold and silver and other writers also refer to the ostentatious decoration of their equipment (Livy IX.40, Florus LXI.7). But this gives no indication of what sort of designs or motifs were used, aside from the point that the Samnites are almost always associated with the *scutum*, a shield which is usually depicted plain. Plutarch, however, refers to the Italic tyrant of Catana, Mamercus, who defeated a force of Timoleon's Greek troops fighting for Syracuse. Mamercus dedicated their captured shields with the epigram: 'these bucklers, purple painted, decked with ivory, gold and amber, we captured with our simple little shields' (Plutarch *Timo*.31). This passage seems to indicate that Mamercus' men, who were probably of Italic origin, had shields that were unadorned, perhaps even of the more humble variant types discussed earlier.

Evidence from red-figure vases shows that blazons was selected from a repertoire of motifs, which were popular within a particular area. The majority of shield devices from southern Italy are usually some type of geometric pattern. The starburst, of either 8 or 16 points, was a common Hellenistic motif and seems to have been very popular in southern Italy. The few zoomorphic designs of snakes, rampant lions or boars appear in the late 5<sup>th</sup> early 4<sup>th</sup> centuries, when these were being used in Greece. Unlike the Greeks, the south Italic peoples do not appear to have used monograms as blazons. But this may not be surprising, as Sekunda believed that the Greek use of letters as state shield devices may have originated from those carried in the *hoplitodromos* (hoplite race) (Sekunda 2000). This was an athletic competition that does not seem to have been practised by the south Italic peoples.

A small number of bronze shield devices have been found in southern Italy, such as a charging boar, a warrior on horseback, and a chimera, which would have been

affixed to the face of the shield (fig55.1-3). The majority of blazons, however, were probably painted directly onto the shield. Although most of these designs are quite simple, some examples found in tomb paintings can be extremely detailed and colourful. Another feature of note in depictions of the *aspis* are the small dots often found along the rim of the shield. These dots appear either singly or in pairs and are probably a convention which painters used to represent the intricate *guilloche* or cable pattern frequently found on the bronze shield rims. The Chiaromonte *aspis* from tomb 652 in Potenza provides a well-preserved example of this cable patterning (S4, fig.54). The design is created from three-ply strands which are interwoven around embossed bumps (the dots depicted in representational sources), this is bordered on one side by a very thin strand of beading. In some instances however, the shield rim was left plain, as exemplified by the smooth surface found on the *aspis* from the ex-Guttmann collection, (S8).

#### **6.11. Shields depicted in Paestan paintings: a case study**

It is necessary to make some clarifying remarks regarding the shields illustrated in Paestan tomb paintings. At first glance it would seem an obvious conclusion that the shields used by warriors in these paintings illustrate those belonging to Paestan warriors. This, however, is not altogether clear. The subject matter of the painting is probably far more indicative of exactly whom the equipment illustrated was used by. The variant type shields for example, are only depicted as being carried by duelling warriors, who are believed to be gladiators and therefore probably prisoners of war or as an item of spoil carried by a victorious warrior as a trophy. This evidence seems to indicate that variant shields were used by enemy warriors, whoever they might have happened to have been. The warriors who we can be most certain were from Paestum are those depicted returning home victorious with trophies carried over their shoulders. However, these are always cavalymen who are usually shown without shields. There are only two examples of mounted warriors with shields, in one case it is clearly the *aspis*, but the other shows only a partial inside view. Although there appears to be a *porpax* and so this is probably an *aspis* as well.

**Paestan shield devices (fig.59):** The Paestan shield devices, numbers 1 through 15, are drawn mainly from tomb paintings dating from 380-320 BC. The majority of these blazons are geometric patterns, number 1, however, is a zoomorphic design of a rampant lion, which comes from a vase painting. Example 2 is from a duel scene in tomb 271 Arcioni dated 360-350 (WP22). It is a simple crenellation pattern of black on white which follows the circumference of the shield. Number 3 is from the shield of a duellist found in tomb 1 Arcioni dated 360-350 (WP23). This shield is shown in profile, so the visible design has been replicated with the presumption it is symmetrical. This is the only device, which combines zoomorphic and geometric designs of a pair of geese or swans and a starburst with curling rays. The blazon and shield rim are dark, possibly red on a white background. Example 4 is from a duel scene in tomb 2 Vannullo dated 360-350 (WP35). The device is of a black circle with pointed rays projecting from it, on a yellow background. Number 5 is a trophy carried by returning warrior from tomb 84 Andriuolo dated 350-340 (WP18). The shield is white with a curious black vine-like motif on it.

Example 6 is from tomb 58, Andriuolo dated 340-330, which depicts a duel between a warrior with an *ephaptis* and one protected by an *aspis* (WP3). The shield design is a large yellow circle, probably of bronze, surrounded by a red wreath on a white background. Number 7 is from a duel scene in tomb 1 Vannullo dated 340-330 (WP38). It shows an eight-pointed radial design open in the centre and encircled by a rim. Example 8 is a shield on a frieze of arms from tomb 28 Andriuolo dated 340-330 (WP6). The device appears to be a number of darts connected by an undulating line, perhaps a variation on the starburst pattern. It is black on a yellow bronze background. Number 9 is from a duel scene in tomb 48 Andriuolo, dated 340-330 (WP12). The shield is white with a large red circle in the middle from which a number of red rays project. Examples 10-13 are from a battle scene found in tomb 114 Andriuolo, dated 330-320 (WP20). The devices illustrated here are all black geometric designs on a white background, although on the painting there are a number of plain yellow shields as well. Shield 10 has a swastika symbol, which was a popular motif in south Italic iconography, often associated with the sun or Apollo. Shield 11 has a four spoked wheel embellished with serrations. Shield 12 has six lines projecting from a small circle in the centre. This is probably a



variation of the wheel design making use of the shields rim as a decorative feature.

Shield 13 has a vine pattern which seems to follow the inside edge of the rim.

Example 14 is from an unknown tomb, which shows a frieze of arms, the style of the painting seems a bit more advanced than the device on number 8 and so may be dated slightly later, perhaps 330-300 (WP39). The blazon depicts a rampant lion with a yellow mane on a white background. It is reminiscent of the rampant lion depicted on the vase in example 1. Shield number 15 is also from a frieze of arms depicted in an unknown tomb, which stylistically seems to be quite late and therefore probably dates from the end of the 4<sup>th</sup> century (WP44). The device is a starburst pattern of alternating long black and short red rays around a central disc on a yellow background. A large proportion of Paestan shields are plain, being painted white or bronze faced. From a total of 35 warriors depicted with the *aspis* in which the outer face of the shield was plainly visible only 15 were decorated with some type of blazon. The painting from tomb 114 is also of interest, as this battle scene shows approximately half of the warriors with shield devices. A hero who is depicted ahead of the main battle line in this painting has a plain bronze shield. This painting seems to indicate that in Paestum at least shield devices were a matter of personal preference rather than a uniform blazon.

**Lucanian shield devices (fig.60):** Lucanian shield devices, numbers 16-30, are derived from red-figure vases dating from 430-300. The starburst and variations of this design are the most common blazons and are very similar to those found on Macedonian type shields. This similarity may reflect their influence, although many of these paintings are attributed to before the middle of the 4<sup>th</sup> century. Number 16, dated 430-420, shows a large disc from which 16 rays radiate (Schneider-Herrmann 1996: pl.6). Example 17, dated 380-370, is a quite common variety of starburst, it has a small disc from which 16 alternating long and short rays radiate from (Trendall 1967: 37/403). Number 21, dated 380-360, is a slightly more embellished version of this design, here a wave pattern has been added to the rim of the shield, in place of the usual *guilloche* pattern of dots and cables (Trendall 1967: 123/629). Another frequently depicted type of starburst is number 18, dated 380-370, which is the eight-ray variety (Trendall 1967: 38/413). Examples 17 and 18 are identical to those found in contemporary Greek and later Hellenistic sources.

Shields 19 and 20, dated 400-370 and 380-360 respectively, are designs which make use of discs and dots. Number 19 has a large disc in which 16 small circles are spaced around the inner edge (Schneider-Herrmann 1996: pl.27). On shield 20 a central dark disc with a light border has a ring of smaller circles around it (Trendall 1967: 103/541).

Shield designs, which date to the second half of the 4th century, show an integration of the circle and dot motifs with starburst patterns. There also seems to be a reduction in the size of the blazon. Example 22, dated 380-360, has a small eight-ray starburst surrounded by a ring of dots (Trendall 1967: 123/629). This is similar in concept to number 28, dated 360-320, which shows a ring of small dots surrounding slightly curved lines radiating from a small disc (Trendall 1967: 61/633). Number 26, dated 360-320, is another example of the smaller starbursts. Example 29, dated 350-330, appears to be a four-spoked chariot wheel bordered on its outer edge by small dots (Trendall 1996: 41/438). This motif is probably a symbolic emblem of Mamers (Mars) or perhaps Nike goddess of victory. Another blazon which has a design symbolic of victory is number 25 (Schneider-Herrmann 1996: pl.94). This shield is dated 360-320 and shows a small starburst of rays and dots surrounded by a wreath. Zoomorphic shield devices are relatively rare, example 23, dated 360-350, shows a partially coiled bearded snake and is a motif that is sometimes found on armour as hook or shoulder clasps (Naples inv.82716). A variant of this motif is number 24, dated 320-300, which is of a fully extended snake (Schneider-Herrmann 1996: pl.93). Number 30, dated 350-330, shows a modified starburst motif (Trendall 1967: 42/442). The rays have been enlarged into rounded club shapes with dots between each one.

**Campanian shield devices (fig.61):** The blazons depicted on Campanian vases, numbers 31-45, have an altogether different style than the Lucanian types and many shields are noticeably left plain. The evidence for Campanian shield devices is dated to a very short span of 40 years, from 350-300, and most are quite simple geometric shapes or patterns. Examples 31-37 are all dated from 350-320. The shield device on example 31 is a circular pattern of six small white circles in the centre of the shield (Trendall 1967: 88/4). Similar white circles appear along the rim of the shield. Number 32 is an eight-pointed starburst and is quite typical of decorative motifs for this period. Example 33 is

another fairly basic motif of 12 small crosses arranged around the outer edge of the shield face (Schneider-Herrmann 1996: pl.108). Number 34 is from a Capuan tomb painting of a duel and so may not represent Campanians. The device is a simple black disc on the centre of a yellow (presumably bronze) shield. Example 35 a radial pattern of 16 lines, perhaps rays, around a small circle (Schneider-Herrmann 1996: pl.126). Number 36 is another variant of the radial pattern with the circle being slightly larger and the surrounding lines shorter (Trendall 1967: 180/91). Blazon 37 is of a gorgons' head with wings. This motif is more commonly found in Apulian iconography than in Campania (see examples 52 and 60).

Examples 38 and 39 are shield devices from the same vase depicting a duel and are dated 330-310 (Schneider-Herrmann 1996: 121). Number 38 is shown in profile and so only the back end of a lion or panther is visible. Zoomorphic motifs are rarely depicted as shield devices on Campanian vases, but when they do appear the lion or some other dangerous animal is usually portrayed. Example 39 is a variation of the starburst motif; a dark disc with a contrasting light band has eight pointed rays projecting from it. Blazon 40 is dated 340-320 and is a light coloured disc surrounded by 12 small circles (Trendall 1967: 206/668). Number 41 is from an arming scene dated 340-330 and is simply a disc in the centre of the shield (Trendall 1967: 156/278). Example 42 is yet another variant of the radial design in which a two-tone disc is surrounded by short curving lines, which are in turn encircled by smaller circles (Trendall 1967: 212/804).

Shields 43 and 44 are unusual for Campanian types in that they are intricately decorated with starbursts and alternating dark and light rings with dots (Schneider-Herrmann 1996: pl.55, 56a). These devices are characteristic of the Ixion painter, dated 340-320, and appear in number of varieties. Number 43 has a dark central disc with a contrasting starburst on it. The dark disc is bordered by a light band, which has dots on it and is surrounded by rays pointing outwards. Example 44 is a variation on the starburst band motif, which has a dark central disc with a 16 point starburst surrounded by a light then dark band with dots on it. Again, numerous rays radiate around the dark disc. Shield blazon 45, dated 310-300, is from the comic vase mentioned earlier in regards to the variant shield (British Museum GR1927.4-11.8). It has a central disc with a ring of dots within and outside of it. The shield rim is decorated with a wave pattern, somewhat

similar to example 38. The majority of Campanian shield devices seem to be rather simple and unpretentious designs of light or dark discs sometimes encircled with projecting lines or small circles.

**Apulian shield devices (fig.62):** Shield devices derived from Apulian vases, numbers 46-60, are dated from 410-320. The starburst motif is found but this differs from the type found on the Lucanian vases. Example 46 is dated 410-380 and has a 10-point starburst with rays that have the rounded end projecting outwards this is surrounded by a ring of small dots (Trendall and Cambitoglou 1978: 2/9). Number 47 and 48 are dated 370-350 and are variations on the starburst design (Trendall and Cambitoglou 1978: 6/219, 3/60). Blazon 47 depicts a 16-point starburst with pointed rays that radiate from a dark central disc. While example 48 is an 8-pointed starburst with an equal amount of short rays interspaced between them. Examples 49-52 are all dated from 360-340 (Trendall and Cambitoglou 1978: 9/188, 9/247). Blazon 49 is a central black and white disc surrounded by a ring of small circles. Example 50 is simply a large black disc on the face of the shield. In contrast, number 51 is an intricate pattern of eight concentric rings composed of small dots, which seem to alternate between light and dark. Warriors bearing the dark disc motif of example 50 are depicted fighting against those equipped with shields which have the concentric circles of number 51. Blazon 52 has a small gorgons' head in the centre of the shield with a dark rim and segmented band which borders inside of it (Naples Museum inv.81393).

Examples 53-55 are dated from 350-330. On example 53 only half of the device is visible, which is the back end of a lion or panther (British Museum GR1772.3-20.33). Blazon 54 is a chariot wheel with four spokes a motif often associated with Mamers the god of war. A variation of this design is found on another Apulian *krater* in the British museum imposed on a contrasting dark disc. Shield device 55 is a radial pattern with 16 spokes around a central disc, which contains eight smaller circles (Schneider-Herrmann 1996: pl.117). Example 56 is dated 340-320 and is a variation of the radial or starburst pattern (Trendall and Cambitoglou 1978: 14/105). As with device 46 the projecting rays have rounded ends which point outwards. Blazons 57 and 58 are of unknown date but are quite similar and are probably contemporary (Trendall and Cambitoglou 1978: 2/24,



German Archaeological Inst. Cat.42). These devices show two variations of a contrasting 8-point starburst on a dark disc surrounded in one instance by short projecting lines in the other by a thin light band. Example 59 is one of the rare zoomorphic images that appear in Apulian iconography. This device is of a coiled bearded snake with its head raised to strike. Shield device 60 is from the end of the 4<sup>th</sup> century and is another variant of gorgon head. A tomb painting from Gnathia also depicts a shield with the gorgon motif and is dated to the beginning of the 3<sup>rd</sup> century (WP45). Apulian shield devices are overwhelmingly geometric patterns, most commonly variations of the starburst and motifs which make use of discs and small circles. The few zoomorphic images depicted are of the snake and lion, and on a vase not illustrated here, the boar. These are all animals which are commonly featured in south Italic iconography.

### 6.13. The use of shields by cavalry and the *pelte*

The majority of cavalrymen from 4<sup>th</sup> century iconographic sources are depicted without shields. There are however some examples, mainly from Campania and Apulia, which show cavalrymen with shields. It is generally believed that the Greeks adopted the practice of fighting on horseback with shields from Italy. In fact a special type of cavalryman, called Tarentine, developed in southern Italy. The Tarentine was a light cavalryman armed with javelins and a small round shield or *pelte*. The earliest depictions of these types of cavalry are found on coins from the Greek city of Tarentum from the first half of the 4<sup>th</sup> to the beginning of the 3<sup>rd</sup> centuries. These coins show a helmeted cavalryman armed with a small round shield and javelins. In time this came to indicate a method of armament and fighting and not a nationality and many Hellenistic armies began to recruit their own Tarentine cavalry (Livy XXXVII.40, Polybius XVI.18). Only in Apulia do we find similarly armed cavalrymen on red-figure vases (fig.58). An Apulian column *krater* from Ruvo shows a warrior wearing a loincloth equipped with the *pelte* (Schneider-Herrmann 1996: pl.66, fig.58.8). Another example from an Apulian *hydria* in a private collection depicts a cavalryman carrying a *pelte* and is dated 360-340 (Trendall and Cambitoglou 1978: 9/187, fig.58.7).

Polybius wrote of early Roman cavalry, 'the cavalry shield was made of ox-hide and was somewhat similar in shape to those round cakes with a boss in the middle which are used at sacrifices. These shields were of little value in attack as they were not hard

enough, and when the leather cover peeled off and rotted after exposure to rain they became not merely awkward, as they had been before, but quite useless. Since this equipment proved so unsatisfactory in use, the Romans lost no time in changing over to the Greek type . . . Greek shields, which, since they are firmly and solidly made, render good service against both attack and assault' (Polybius VI.25). Unfortunately because Polybius was writing for a Greek audience he felt no need to give a detailed description of this shield. The *parma* does not appear to have been used by the south Italic peoples. The *scutum* is sometimes depicted as being used by cavalrymen on Campanian vases (Trendall 1967: 174/582) and in tomb paintings from Capua. A tomb painting from Nola shows a cavalryman with a large circular shield which has a *spina*.

The *pelte* is a type of shield which appears almost exclusively with cavalrymen in south Italic iconographic sources. In Italian contexts the *pelte* is a small circular shield which is almost like a miniature *aspis*, although there is no image of the inside of the shield to indicate how it was held. It is most famously associated with Tarantine cavalry and appears on numerous coins from that city. There is no reason, however, why this shield might not have an Italic derivation. An Apulian *krater*, dated to the middle of the 4<sup>th</sup> century shows a cavalryman equipped with the *pelte* and two javelins (Trendall and Cambitoglou 1978: 82, 9/187). This shield measures around 45cm, from under the armpit to the top of the upper thigh.

## Chapter VII: South Italic weaponry

### 7.1. Weaponry in 5<sup>th</sup> to 3<sup>rd</sup> century Southern Italy

Evidence from burials and representational sources show that the south Italic warrior was armed with a variety of spears, javelins, swords and axes. At present, very little has been published about the offensive weapons of southern Italy, despite the large quantity of archaeological and iconographical material available. Small's, 'The use of the javelin in Central and South Italy in the 4<sup>th</sup> century BC, 2000', is one of the few attempts to examine the javelins and spears of this region and period. Two other works of note, *Armi. Gli strumenti della Guerra in Lucania*, 1993, and *Forentum vol.II*, 1991, have both published a number of weapons and provide a tentative analysis of the material. But these publications are catalogues of artefacts and their discussion of the weaponry is limited to the south-eastern regions of Italy, and most specifically to the site of Lavello. Gardiner's, 'Throwing the Javelin', although nearly 100 years old, is also an informative paper on the little mentioned *amentum* or throwing thong, which is frequently depicted attached to javelins in south Italic iconography (1907). Other Italic weapons have been mentioned in surveys of ancient military equipment which are usually of a popular nature; Connolly's *Greece and Rome at War*, 1981, is typical of this treatment.

The lack of research on south Italic weaponry is probably due in part to the condition of the artefacts. In many publications there is a tendency to focus attention on items of the panoply which are better preserved. Thus, bronze armour and helmets are often well illustrated and recorded while the iron weapons are only listed. Unfortunately, many iron objects are often found in a poor state of preservation and very few public or private collections take the necessary measures to prevent it from deteriorating further. Iron spear points and swords are sometimes so badly corroded and in such a fragmentary state that it is impossible to reconstruct the true form and dimensions. Small observes, 'it is normal, in reports written before c.1970, to find *cuspidi di lancia in ferro* reported without further details and with no illustration, or with only a photograph of heavily corroded remains' (Small 2000: 221). More recent publications, such as the above mentioned, *Armi* and *Forentum* volumes, have provided a better treatment of how these iron weapons are recorded, but they still remain the exception.

While conducting my own research I found the fragile condition of many iron artefacts often prevented any extensive analysis. In other cases, however, I must admit that I failed to consider the weapons as meticulously as I had examined the armour. In the future I hope to amend this shortcoming and give a more thorough treatment of the material. The purpose of the present chapter is to provide a very basic outline and analysis of south Italic weaponry and bring attention to some of the major trends and developments that occurred during the 5<sup>th</sup> to the 3<sup>rd</sup> centuries. The first section of this chapter deals with spears and javelins, which have been divided into four basic categories based on their form and function. An important development linked to the changing nature of warfare in 4<sup>th</sup> century Italy was the emergence of various *pilum*-type weapons. Another feature related to javelins and spears was the use of the *amentum* or throwing thong. The use of the throwing thong was widespread in southern Italy, yet discussion of spears and javelins often exclude mention of it. The second section of the chapter looks at the types of swords and axes that were used in southern Italy. Although strictly secondary weapons during this period their increasing importance in later centuries offers some insight into their development. The evidence from actual weapons has been compared to those depicted in representational sources, as indicators of the fighting methods practised. I have excluded knives from this study as their regular appearance in both male and female burials suggests they had more to do with domestic and utilitarian purposes than warfare. There are of course some larger examples of knives, which could have been used as weapons but as of yet there is no conclusive representational evidence that they were.

## 7.2. South Italic javelins and spears

The use of the javelin seems to have been recognised as a specialty of the south Italic peoples. Thucydides specifically mentions that the Athenians on their way to Sicily 'took on board 150 Iapygian javelin-throwers, of the Messapian tribe . . . and renewed an old friendship with the local ruler, Artas, who had provided the javelin throwers' (Thucydides VII.33). Diodorus repeatedly makes reference to south Italic peoples, such as the Lucanians and Bruttians whose enemies were 'shot down with javelins' (Diodorus



Siculus XVI.63.82). Livy also describes battles against the Samnites in which they used javelins (Livy X.40).

A vast number of javelin and spear points have been recovered from south Italic burials, and probably number several thousand. Their condition, however, varies considerably and in some instances we are only able to tell it is a weapon from the presence of a socket. I have listed a sample of 118 javelin and spear points, which are numbered (JS1-JS118). The criteria by which these examples were chosen was unfortunately not as comprehensive as I would have liked. Many spears and javelins were part of the panoplies of armour I had already examined and so were easily accessible. Other weapons were included as I came across them in museum catalogues from which information on other items of evidence was being gathered. Javelins and spears (JS1-JS118) were all from either the former Guttman collection or on the antiquities market. Although these weapons lacked any detailed provenance or context, they were in relatively good condition and allowed me the opportunity to examine them first hand. A significant amount of javelin and spearheads also came from Paestum, (JS31-JS49) and (JS89-JS91), which had the benefit of being from datable contexts with associated armour and images of these weapons in use. There is also the unique example of tomb 669II at Lavello, where 18 spears and javelins were found (JS101-JS118). This is the largest amount of weapons to come from a single burial and shows a wide selection of types that were available to the warrior in the late 4<sup>th</sup> century. Despite the limited scope of the present sample I have personally examined at a large number of the weapons catalogued. This provides the only way to get some physical perspective of their dimensions, weight and construction.

Evidence from archaeological and representational sources show that javelins and spears were the most common weapons in southern Italy during the 5<sup>th</sup> to 3<sup>rd</sup> centuries. South Italic javelins and spears all appear to have been socketed weapons which were sometimes secured to the shaft by nails but more often were not. It is interesting that the portion of the shaft the spearhead was affixed is sometimes preserved, suggesting that some type of pitch or glue was present. The precise length of these weapons is difficult to determine, especially in smaller pit burials, such as the traditional flexed *rannichiato* graves of Apulia, where the shafts were likely to have been broken (Small 2000: 222). In

larger tombs there was undoubtedly ample room to accommodate entire weapons unbroken, but the majority of south Italic javelins and spears lack the *sauroter* (butt spike), to help determine their length. Spears depicted in representational sources are one way to assess the approximate length, but these must be used with caution. Many images of weapons were clearly painted to fit the space available and it is sometimes difficult to associate representations of spearheads with actual examples.

Javelins and spearheads came in a wide variety of forms and gradations of size and it is impossible to classify them into a neatly defined typology. The large degree of variance in size and shape suggests that iron spearheads were produced at a very local level. Although it is likely that variation in spearhead design was subject to a number of interrelated factors, which probably included local craft traditions, changing styles, personal preferences and the types of fighting warriors expected to be engaged in (Bishop and Coulston 1993: 52-53). Xenophon when discussing preparations for hunting states, 'the javelins must be of every variety, the blades broad and keen, and shafts strong. The spears must have blades 48cm long, and their shafts must be of cornel wood, as thick as a military spear' (Xenophon *On Hunting* X.2-5). The stress on weapons 'of every variety' with sturdy shafts and heads of specific sizes indicates a tremendous amount of specialisation and technical expertise. Hunting was clearly no haphazard affair and we should not imagine that preparations for war were any less meticulous. Xenophon goes on to advise young men, 'not to despise hunting or any other schooling. For these are the means by which men become good in war.' (Xenophon *On Hunting* I.18). The care in which warriors regarded their weapons is exemplified in a scene depicted on a Campanian bail amphora, from the late 4<sup>th</sup> century, once on the Zurich market (Schneider-Herrmann 1996: 71, pl.108). The warrior is seated and holds a spear or javelin by the shaft with his left hand while he grasps the head with the right. He is clearly checking to see if the spearhead is secured properly and that the blades are sharp.

It is difficult to describe these spearheads in a very specific and systematic manner. The term leaf-bladed, used to describe so many of these heads is ambiguous and imprecise, and offers little opportunity to differentiate between variations of this general shape. Bishop and Coulston have recommended a system of classification which is based on the ratio of the length of the spearhead to where the maximum width is found. 'The

distance from the tip of the blade to this broadest point is termed the 'length of entry' (Bishop and Coulston 1986: 69). Therefore, a spearhead such as (JS37) which has its widest point nearer the socket would be termed a low-shouldered blade (fig.67). While examples like (JS76) with a broad width near the middle of the spearhead would be called mid-shouldered (fig.67). But this typological approach is limited to those spearheads which fit this design and is inappropriate for many of the throwing weapons with long shanks. Small made use of the system of classification found in *Armi* 1993 and *Forentum* 1991 for the Lavello material. He admits, 'it is not always easy to apply, for many spearheads are marginal between one category and another, and some do not correspond to any of the defined types' (Small 2000: 221). He regarded this typology, however, as the best tool available for which to compare the weapons found on other sites.

I have found it difficult at times to differentiate which are javelin or spear heads, although many were clearly designed as dual-purpose thrusting and throwing weapons. Ultimately, most types of spear could have been thrown and javelins used in close quarters if it was necessary. The classification of a weapon as either a spear or a javelin must be flexible and determined by the primary function of its design. Weapons such as the pilum, with its long slender shank and narrow head or point have a primary function which is immediately evident. The vast majority of shafted weapons, however, are much more functionally discrete to our modern eyes and require an examination of not just the artefact itself. Javelins and spears depicted on tomb and vase paintings offer a comparative source of evidence to help determine their function. The most prevalent fighting method illustrated in representational sources shows that one or more spears were thrown while one weapon was retained for thrusting. In many instances, especially in paintings from before the middle of the 4<sup>th</sup> century, there is little difference between these weapons. Warriors from the 5<sup>th</sup> century or earlier are often depicted with identical types of spears for throwing and thrusting. Later evidence, however, shows an increasing divergence between the traditional dual purpose fighting spear and the highly specialised throwing javelin.

### 7.3. Use of the *amentum*

Tomb and vase paintings often show warriors using javelins and spears with the *amentum*, or throwing thong attached. This is an important feature of the south Italic javelin or throwing spear, which is seldom discussed. The *amentum* was a leather thong, which was wound or tied around the javelin so as to create a loop, about 18 centimetres long at or near the centre of the shaft. The javelin was cradled in the palm and held in place by the third and fourth fingers, while the first two fingers were inserted into the loop of the *amentum* (fig.63.2). In many depictions the artist has taken great care in rendering the details of how the hand and fingers held the javelin with the *amentum*. A warrior from an Apulian *krater* dated 330-320 in the British Museum is one of the better-illustrated examples and shows this method of holding the javelin quite clearly (fig.63.1, B.M. F154, GR1865.1-3.18). The first two fingers are shown fully extended in this instance, which serves to accentuate the classic handhold position of using the *amentum*.

Livy comments that it was 'a run before hurling . . . which is what gave the greatest velocity' to the javelin (XXXIV.39). Indeed, use of the javelin implies the use of an open formation so that warriors may acquire the momentum needed by running forward to cast their javelins. The use of the *amentum*, however, would have given the javelin a rotary motion when thrown, which increased its velocity and improved both the accuracy and penetrating power of the weapon. The devastating effectiveness of these weapons is graphically illustrated in many of the duelling scenes from Paestan tomb paintings. The javelin is often shown completely impaling the arms, legs and even shields of adversaries, with the *amentum* loop hanging from the shaft of the weapon. In tomb 1/1990 Arcioni necropolis, Paestum, a warrior has leg impaled by a spear (WP23) (fig.87). Tomb 1 Sequestro Finanza, Paestum, depicts a truly amazing cast in which the javelin has passed through the right side of the warriors' torso and on into the right arm (WP32).

The killing potential of this weapon is evident from the description of Alexander of Epirus' death 'when a Lucanian exile cast a javelin which transfixes him' at long range (Livy VIII.24). A tremendous amount of power would have been necessary to 'transfix' a man moving at long range, moreover Alexander was probably armoured, thus



requiring even greater velocity upon impact to penetrate. Ennius, writing in the 3<sup>rd</sup> century, makes references to troops throwing 'loop-handled lances' from towers (*hastae ansatae*) (III.168). A Campanian bail amphora at the Getty Museum, dated 370-350, depicts just such a scene, where warriors are casting down javelins from the battlements (fig.71.4, inv.92.AE.86). The *amentum* was probably ideal for throwing javelins in situations where it was too confined for a run. In the *Aeneid*, Virgil describes details of the equipment used by earlier south Italic peoples, he states, 'there were the fierce folk of Saticula besides, and a band of Oscans also. Their missiles were smooth throwing javelins, which it was their habit to fix flexible leashes' (VII.730-33). Although a work of fiction the poetic imagery appears to be drawn from the iconography found in south Italic tomb and vase paintings.

In representational sources the warrior's fighting stance is relatively uniform between the different regions of southern Italy and reinforces the view that they all fought in a broadly similar manner (Small 2000: 228-231). The typical pose depicted is the warrior poised to cast a javelin (fig.63.3-5). In this posture the warrior's feet are placed wider than shoulder width apart, inferring a stance with good balance and stability. The warrior's left leg is always in the lead and slightly bent in anticipation of movement forward. The trailing right leg is fully extended away from the body, emphasising that the warrior's weight and centre of gravity are placed over the leading left leg. In the warrior's right hand is a javelin with *amentum* held in the characteristic manner: the shaft cradled in the palm and held in place by the third and fourth fingers, with the first two fingers passed through the loop of the *amentum*. The eyes of the warrior are fixed on his target. The javelin is usually held pointed downward at an angle, and sometimes horizontal to the shoulders. This stance is clearly illustrated on a Campanian *krater* in the British Museum, and a bail amphora at Capua Vetere (Schneider-Herrmann 1996: pl.15, Naples inv.870). Modern reconstructions often depict the javelin being held and thrown pointed upwards, but this is incorrect (Sekunda 1995: plate F). The javelin pointed upwards is the position used for athletic competitions, where the objective of the throw is distance and time is not a factor. But the warrior and huntsman are always depicted with the javelin pointed downward or horizontal, where the objective of the throw is force,

accuracy, and rapidity of fire (Gardiner 1907: 272). I have yet to see a single example from representational sources where this is not so.

#### 7.4. Categories of south Italic javelins and spears

The south Italic warrior used a wide variety of shafted weapons for very specific purposes. Therefore, rather than attempt to classify these different spearheads or javelin points into any sort of typology I think it would be more useful to place them into one of several categories based on their functional features. This requires some understanding of south Italic fighting techniques and the ways in which these types of weapons were used. It is fortunate that south Italic representational sources provide fairly comprehensive and detailed depictions of warriors in different modes of fighting using various types of weapons. Since these paintings are iconographic representations, and therefore depict idealised images of combat, it is likely that the types of weapons illustrated show their ideal function. In non-combat scenes where function is not immediately apparent features such as the *amentum* or sauroter help to signify the manner in which that weapon would have been used. The four categories of javelins and spears discussed here include 1) light javelin with a small bladed head and a throwing thong. 2) dual-purpose throwing-thrusting spears with long tapered blades and throwing thong. 3) heavy thrusting spear with small bladed head, tapered shaft and butt spike. 4) *pilum*-type javelins with small or no head, long shank and throwing thong.

**The light javelin (fig.64.1-2):** The light javelin is characterised by a relatively small, low or medium shouldered head that has a leaf, barbed, triangular or ellipsoid head. These range in size from 15 to 35cm in length, but most are over 20 but under 30cm. These can be similar in size and shape to the points found on thrusting spears, but what differentiates the light javelin is the narrow join from the head to the shank. This can be clearly seen on examples (JS8-10) from the former Guttmann collection (fig.71.2). The narrow join would probably have served a practical purpose by breaking or bending when impacting and is a design feature that is often accentuated in images of light javelin in tomb and vase paintings. Some examples, however, are similar in form to the *pilum* but on a much smaller scale. These light javelins have a shank up to four times the length of

the head, such as example (JS47) from tomb 269 Gaudo, Paestum which is only 17.7cm long (fig.68). Most of these weapons are depicted with a short shaft and are very slender. Polybius states the wooden shaft of the javelins used by the *velites* was, 'about three feet in length and a finger's breadth in diameter' (Polybius VI.22). The lighter weight and slender construction of the javelin would permit a warrior to carry many more of these than the heavier types of throwing weapons. The light javelin is always shown with a throwing thong attached, which would have made it an effective weapon despite its lightness.

**Dual-purpose throwing-thrusting spears (fig.65):** The dual-purpose throwing-thrusting spear is a typical south Italic weapon and examples are found as far back as the 9<sup>th</sup> and 8<sup>th</sup> centuries. Two features characterise this weapon, the first is the low-shouldered long tapering spearhead. The length of this weapon ranges from 45-60cm with a width of 2.5 to 6cm. Xenophon mentions spears of this length as necessary for hunting larger prey (*On Hunting* X.2-5). In a military context the larger sized heads would have been just as effective in bringing down men or horses and so there may have been little actual difference between those used for hunting and in combat. A similar analogy can be made with the standard 7.62mm calibre round used by military forces for the M-60 machine gun and several varieties of assault rifle. This is identical to the .302 round, which is used by civilians for hunting deer and other large animals.

The spearhead also had a median ridge that is either a single edge or rounded spine. The style of this long tapering blade is very elegant yet the median ridge would have made it quite a strong and versatile weapon. What helps to classify this as a dual-purpose weapon is the throwing thong which is typically found attached to it in representational sources. In other instances, two of these weapons are carried, implying that at least one would have been thrown. The spearhead from Troccola (JS24) has a long tapering blade with a single median ridge (fig.67). The socket is a little less than 1/3 the length of the blade. This was a weapon capable of delivering a very deep puncture as well as cutting along either edge of the wound. It is unlikely the entire head would have been thrust home into the target. Rather, repeated thrusts of a lesser depth, delivered in rapid succession would have been much more lethal. Paestan tomb paintings often show

warriors bleeding from a number of stab wounds while engaged in close combat. When thrown, however, the entire weapon could easily penetrate the human body as depicted in tomb paintings.

**The Greek-style thrusting spear with butt spike (fig.64.3-4):** The heavy thrusting spear with butt spike or *sauroter* was the primary weapon of Greek hoplites and designed specifically for hand-to-hand combat. This weapon was typically 2-3 metres in length and was tapered towards the point for better balance and ease of handling. On an Apulian vase in the British Museum is a very detailed depiction of the thrusting spear being cradled by Minerva (fig.64.3, B.M. F279). Clearly evident is its tapering shaft with butt-spike and small spearhead. The spearhead of this weapon was typically small and averaged between 15 and 30cm long, 2.5 to 4cm wide. Although of similar size as some light javelin heads they do appear to be of somewhat sturdier design. An example from Camerelle (JS87) has a low-shouldered blade 24cm long (fig.64.4). The width from the socket to the join with the spearhead does not taper, as it does with most light javelin heads, and instead remains at an even thickness. This would have given the weapon a much greater structural strength at its weakest point providing a solid join between the socket and head. As a weapon designed primarily for hand-to-hand combat the spearhead would have to have been of durable construction so that it could withstand the impact of being thrust and stabbed repeatedly without breaking.

In fighting scenes warriors are often shown holding the spear virtually at the very end of the shaft. A Paestan painting from tomb X Laghetto, dated 380-370, shows two pairs of duellists thrusting at each other with spears (WP30, fig.88). These are depicted being held at the very end of the weapon and no butt spike is visible. Connolly states that a 2.5m spear of this type weighed around a kilogram (Connolly 1981: 63). One might get an understanding of this weapon's balance by holding a pool cue near its butt end. The thrusting spear appears regularly in south Italic iconography, but unlike Greek examples most are not depicted as tapering. This could be an artistic convention rendering spears with a simple line or perhaps it might even represent a lighter version of the thrusting spear. The head of the Greek-style thrusting spear tends to be quite small when compared to the dual-purpose weapons. The widest point of the spearhead is usually near



the middle of the blade. The presence of the *sauroter* in Campanian and Lucanian vase painting is often indicated by two short horizontal lines across the end of the spear shaft, but actual examples are rarely found in south Italic burials.

***Pila*-type weapons:** Connolly cites the earliest examples of socketed *pila* coming from Pomarico Vecchio, Basilicata which are dated to the second half of the 4<sup>th</sup> century (Connolly 2000: 43). There is evidence, however, that *pilum*-type weapons were being used at a much earlier date in southern Italy. Early heavy javelins appear during the 5<sup>th</sup> century and are characterised by longer shanks than previous types of throwing weapons. Two examples from Paestum, both dated 400-390 are of this design (JS36 and JS37) (fig.67). Weapon (JS36) measures 51cm long with a head that is 1/3 the length of the shank. The portion of the shank leading to the head was square in section (fig.66.1-2). A smaller version of this design is example (JS37) which measures only 28cm long. These are similar to the javelin from Pescara (JS22) which probably dates from the late 5<sup>th</sup> to early 4<sup>th</sup> centuries (fig.67). The head of this example is more leaf shaped with mid-shouldered blade and the shank slightly longer than the Paestan types.

Some of these weapons do not appear to have any head on them at all and seem to be simply a socketed prong with a sharp point. They were obviously designed to be thrown and would have had a tremendous amount of penetrating power upon impact. One wonders if some of these prong type javelins were merely spears and javelins which had their heads broken off and were filed to a point. Polybius describes the javelins used by the Roman *velites* of the 2<sup>nd</sup> century as being, 'hammered out thin and so finely sharpened that it is inevitably bent on first impact, thus making it useless for the enemy to hurl back' (Polybius VI.22). These weapons are clearly very similar in design to the prong javelins found in south Italic tombs and they probably functioned in a similar manner. Polybius tells us in the same passage that the head of these javelins were about a 'span in length' (24 centimetres). An example from Canosa (JS72) dated 330-300, is hammered thin along its length but ends in a round portion which tapers to a point (fig.68). This weapon is only 18.5cm long but may be an early form of the more specialised *hasta velitaris*. Similar type weapons are known to have come from Numantia in the 2<sup>nd</sup> century (Bishop and Coulston 1993: 51). Two *pila* from Paestum,

(JS40) and (JS41) dating to the middle of the 4<sup>th</sup> century, are much longer and robust than the Canosan example, measuring 41cm. They are circular in section along the entire length of their shank and taper to a point. More complex throwing weapons were also being used as the *pilum* (JS39) shows from tomb 2/1957 at Paestum, dated 360-350 (fig.65.4, 68). This weapon measured over 35cm long and had a barbed head. The greater part of the shank was square in section until it reached the socket. It is unusual to find barbed javelins at such an early date. Two examples from the very end of the 4<sup>th</sup> century are (JS83) from tomb 9 in Carife and (JS88) from tomb 16 at Capua (fig.66.3-4). Both of these weapons have the characteristic socketed, square-sectioned shank and tapering point found on *pila* from the 3<sup>rd</sup> and 2<sup>nd</sup> centuries. The Capuan example (JS88) was 42cm in length and the *pilum* from Carife was of similar dimensions.

Bishop and Coulston believed that in the development of the *pilum*, 'two versions of the weapon existed, the heavy and the light, and may be indicative of the separate traditions that finally converged in Roman armament' (Bishop and Coulston 1993: 50). Polybius states that Roman troops of the 2<sup>nd</sup> century carried two kinds of throwing spears, one slender and the other thick. He writes, 'the slender spears which they carry as well as the thicker variety are like medium sized hunting spears, the length of the wooden shaft being about four and a half feet. The iron head is barbed and is of the same length as the shaft. They take great pains to ensure the utility of this weapon by attaching the iron firmly to the shaft. It is fastened into the wooden shaft half-way up its length and riveted with a series of clasps, so that in action it will break rather than come loose, although its thickness at the socket where it meets the wood measures only a finger and a half' (Polybius VI.23). From the evidence I have examined it would seem that the lighter socketed type *pilum* developed in southern Italy, whereas the *pilum* with a tang appears to have been an Etruscan or north Italian innovation. It is difficult to determine whether separate allied contingents from various parts of Italy continued to use the traditional *pilum* from their respective regions exclusively. Forty-three socketed *pila*, which are similar to the south Italic types, were found at Smihel, dating to the 2<sup>nd</sup> century, most were 20-38cm long but with a very thin diameter at the socket measuring 1.3cm wide (Connolly 2000: 43).

### 7.5. Summary of weapon types and their functions

Each category of weapon was designed with a specific set of functions in mind and some of these might overlap with those of other weapons. The heavy thrusting spear and the *pila* were highly specialised weapons, designed to maximise their effectiveness in a very particular way. The thrusting spear's long tapered shaft and counter-balanced butt spike is a weapon which provides a long reach without being clumsy to handle. Its design also enables a greater degree of force to be imparted to the point when thrusting or stabbing. The *pilum* on the other hand, with its long heavy shank and small point was a projectile which would maximise the velocity and weight of the weapon upon impact to pierce a target and carry on through. An added benefit of the long shank is that it was likely to bend and therefore be unusable by the enemy. The dual-purpose spear sacrifices the maximum effectiveness in any one function to provide greater versatility. The elongated spearhead, with its narrow point that was strengthened by a widening blade and median ridge was effective either as a throwing or thrusting weapon. The light javelin would not have been as effective as the *pilum* or dual-purpose spear, but it was probably better at longer distances, especially with the amentum. The relatively small size and light weight of this weapon meant that a larger number could be carried.

In the 5<sup>th</sup> century and earlier we find pairs of these long tapered spearheads, indicating the warrior intended to throw one and use the other for close combat. Into the 4<sup>th</sup> century these weapons began to be supplemented by more specialised throwing weapons like the *pila*. Tomb 421 at Banzi, dated 400-350, shows a transitional assemblage of these weapons. In this instance a pair of the traditional dual-purpose spears with long tapering points (JS58) and (JS61) were found with two very long *pila*, (JS59) and (JS60). This evidence indicates that the development of these specialised throwing weapons did not automatically supplant the earlier types of weapons.

The effectiveness of these weapons is something which requires some consideration. Long wide-bladed spears and javelins were designed to inflict larger wounds resulting in a greater amount of tissue damage and immediate blood loss. Their use in hunting large animals makes this especially relevant. Warriors who were unarmoured would have been particularly vulnerable to these weapons as they had the potential to hit vital organs and sever arteries. Narrow pointed weapons were much more

specialised than the dual-purpose spears and javelins. Their primary purpose was to pierce armour and shields by concentrating the impact of the javelin head on a smaller area, which gave the weapon a greater degree of penetrating power. These types of armour or shield-piercing throwing weapons became increasingly heavier and more sophisticated (Connolly 2000: 43). The appearance of a barbed *pilum* in tomb 2/1957 Paestum is evidence to that fact. The design of the *pilum* gave the warrior the ability to penetrate the shield of an enemy and then have it carry on through to enter his body. These weapons could inflict deep punctures and would be much more difficult and dangerous to extract as the wound often closes up around the weapon. Appian describes a sea battle in which a commander was wounded by a similar type weapon 'in the thigh by a barbed Spanish javelin of solid iron, which was impossible to extract quickly. Menecrates thus became unable to fight . . .' (Appian V.82).

#### 7.6. Iron spits and feathered flights

There are two things which have caused some degree of confusion about south Italic weaponry: iron spits and feathered javelins. Iron roasting spits are a category of artefact, which is sometimes mistaken for the *pilum*. These spits are sometimes found in burials and are associated with the drinking and feasting culture practised by south Italic warriors. Well-preserved examples are typically 25-50cm long and come to a tapered point, although in some instances they have points in the form of small spearheads. One end of the spit has a portion which is looped over on itself. The spits are usually found in bundles of three to seven which were probably tied together by the looped ends. A set of six spits was found with the panoply from tomb 97 at Campovalano now in the Chieti Museum (Mangani 2000: 144, 158). Three spits measuring 41.5cm were found amongst the burial goods of tomb 170 Chiaromonte, dated to the 5<sup>th</sup> century (Bottini 1993: 77). The confusion between these spits and the *pila* is understandable. Corroded or fragmentary roasting spits without the looped end have a similar length and width to the long shank of the *pilum*. I have noticed several museum exhibits in which roasting spits have been mistakenly displayed as javelins.

A number of scholars have made mention of javelins with feathers, or flights, attached to them. Schneider-Herrmann and Small cite a Lucanian *krater* at Vienna, dated



380-370 (Trendall 1967: 918/413), where a warrior is depicted carrying a pair of javelins over his shoulder and another one in his right hand, which they believe to be feathered (Schneider-Herrmann 1996: 73; Small 2000:228). Presumably this would have made the javelin more aerodynamic although Schneider-Herrmann refers to the feathers as a decorative feature. Small also cites a wall painting from tomb 114 at Paestum as an example of this practice (WP20, fig.86). In this instance a warrior is poised to throw a javelin with 'feathers on its butt end' (Small 2000: 230). Having examined both the vase and tomb painting first hand and on a number of separate occasions I believe Schneider-Herrmann and Small are mistaken. The warrior shown on the Lucanian *krater* is actually carrying a javelin which has an ellipsoid head. The artist has accentuated the median ridge of the javelin head making it the same width as the shaft of the weapon. This makes it seem as if the two halves of the javelin head's blade are feathers. The fact that the other end of this javelin has no point at all makes it even more doubtful that these are feathers.

The javelin from the Paestan tomb painting (WP20) has been rendered to show a thick shaft indicated by two lines, which taper into one line for the shank of a *pilum*-type weapon. The feathers, which Small describes, are in fact cracks in the plaster and a squiggle on the end of the javelin shaft. Even if one chooses to interpret this wavy line as feathers it is still depicted very differently from the feathered crest in the helmet of the warrior holding this weapon. The so-called 'feathered javelin' is one of many fictitious pieces of equipment which have emerged from a misinterpretation of representational sources or an attempt to ascribe an image to a literary description. The only instance of javelins with feather flights comes from Xenophon's *Anabasis*. He describes being attacked by bowmen, whose arrows were long enough to be used as javelins by the Greeks, who threw them back after attaching throwing thongs to them (Xenophon *Anabasis*). Suffice to conclude here there is absolutely no evidence in the literary or representational sources that the south Italic peoples ever used such a weapon.

### **7.7. The use of javelins and spears by cavalrymen**

Despite the detailed description given to the armour, clothing and shields of the Samnites, Livy makes no such effort with their weapons (IX.37). There is mention of

scabbards, indicating swords, but there is no description of their spears and javelins. In the narrative accounts of fighting, however, Livy differentiates between the weapons of the Roman and Samnite cavalry. The Roman cavalry are equipped with thrusting spears, while the Samnites use javelins. In one encounter the Roman cavalry charged the Samnites 'full tilt' and in the ensuing engagement the Roman commander hit the Samnite general with a levelled spear so hard, 'that he was knocked off his horse and killed with a single blow' (Livy IX.22). The Samnite cavalry responded by, 'hurling their javelins' at the Roman general. The description of the battle may be passed off as a fanciful anecdote, but it differs from the infantry engagements in which uniformly armed troops pelt each other with javelins before engaging hand to hand combat. The details, which Livy has related, seem to have been drawn from heroic narrative of the battle. This appears to be reflected in a battle scene on an Apulian *krater* at St. Petersburg, dated 380-360, which depicts a similar encounter between spear and javelin armed cavalymen (Trendall and Cambitoglou 1978: 585 (4/410)). It is worthy of note that Polybius states the Roman cavalry equipment of 'earlier times' included spears, which were too slender and pliant, making them difficult to aim and giving them a tendency to break upon impact. The end of the spear was also without a butt-spike making it useless if the point broke off. He claims the Romans adopted the Greek spear which, 'the horseman could deliver the first thrust with a sure and accurate aim, since the weapon was designed to remain steady and not quiver in the hand, and also that it could be used to deliver a hard blow by reversing it and striking with the spike at the butt end' (Polybius VI.25). Unfortunately Polybius does not give any indication when these changes in equipment took place.

Some south Italic cavalymen are depicted using a spear to thrust or stab at enemies but the vast majority are equipped with javelins. Even those cavalymen in non-combat scenes, such as the return of the warrior imagery show two javelins being carried. It is interesting that despite what Polybius says about Roman cavalymen adopting a better spear from the Greeks Xenophon advocated, 'in place of the spear with the long shaft, seeing that it is both weak and awkward to manage, we recommend rather the two Persian javelins of cornel wood. For the skilful man may throw the one and can use the other in front or on either side or behind.' (*Art of Horsemanship* XII.11). Xenophon

advises throwing the javelin at long range to give a rider, 'more time to turn his horse and to grasp the other javelin'. He even explains the technique on, 'the most effective way of throwing a javelin. If a man, in the act of advancing his left side, drawing back his right, and rising from his thighs, discharges the javelin with its point a little upwards, he will give his weapon the strongest impetus and the furthest carrying power; it will be most likely to hit the mark, however, if at the moment of discharge the point is always set on it' (Xenophon *Art of Horsemanship* XII.13).

Small's designation of warriors as either cavalymen or infantrymen based on the types of weapons found in their tombs is problematic (Small 2000: 225). The subsequent attribution of different types of spear or javelin to either cavalry or infantry cannot be viewed as rigidly as he proposes. The warrior from tomb 669 at Lavello is often regarded as a cavalryman because of his spurs and widely flaring muscle cuirass. He is buried with 18 javelins and spears which run the full range of forms and sizes, from narrow *pilum*-like heads to long wide bladed spears. It is likely that many of these weapons could be used for a number of different combat situations. In southern Italy, however, it is not immediately apparent from the evidence available that there were any types of javelin or spear which were designed to be used exclusively on horseback or foot.

### **7.8. The numbers and types of weapons carried**

South Italic warriors are most often depicted carrying two javelins or throwing spears and in many burials these are found in pairs. This seems to have been a common practice throughout the ancient world, as Polybius' describes 2<sup>nd</sup> century Roman infantry carrying two throwing spears or *pila* (VI.22). While Xenophon suggests that cavalry should be equipped with a pair of javelins. The preference for two throwing weapons was presumably because it would have been unwieldy to carry more, especially larger types of javelin or spear. In some instances however, the amount and type of weapons that were carried might have varied and in special circumstances there might be many more. Livy for example, describes an episode during the siege of Capua in 211 when Roman infantrymen were equipped with seven light javelins, four feet in length (Livy 26.4.4). On this occasion they were being used to support a cavalry engagement and Livy's mention of this incident indicates it was unusual. In Paestan tomb paintings,

duellists are sometimes depicted having thrown three to five javelins and are using another for thrusting. The painting from tomb 28, Andriuolo necropolis dated 330-320, WP6, shows a duelling warrior equipped with no less than five javelins. There is the possibility however, that the large number of javelins depicted in these duels might be particular to this ritual form of combat rather than the realities of warfare. The warrior in tomb 669II at Lavello had as many as 18 javelins and spears, but it is unlikely that anywhere near this amount was carried in combat.

On occasion, there are warriors depicted in representational sources who are identified as weapon bearers. A Lucanian *krater* depicts such a warrior carrying three javelins and following another warrior armed with a shield and spear (Schneider-Herrmann 1996: pl.69). There is, however, no clear evidence from any source that the role of 'weapons bearer' ever existed in south Italic warfare. Literary sources usually describe warriors replenishing their supply of javelins by picking them up during the course of battle. Livy mentions several episodes during the 4<sup>th</sup> century when javelins were collected and thrown again. At Sentinum, in 295, 'javelins lying scattered on the ground between the two armies were gathered up and hurled against the enemy' (Livy X.29). It is interesting that descriptions of the *pilum* frequently mention it had a long shank, which bent upon impact and therefore could not be thrown back. This feature implies that picking up and throwing back enemy missiles was common practice.

Representational sources also show that warriors sometimes carried variety of different weapons into combat. In Paestum a painting from tomb 53 Andriuolo, 350-340, depicts two warriors charging at each other with heavy thrusting spears (WP2, fig.83). They also carry two much shorter, long-bladed throwing spears in their shield arm. The thrusting spears appear to be squared off at the butt and tapers to a point at the head. An intriguing detail about this weapon is that there is no indication of a metal spearhead or sauroter, which might suggest a spear that was merely a sharp tapered pole. Another Paestan painting from tomb 24/1971 Andriuolo, 380-370, shows two warriors who have already thrown their javelins and continue the duel by stabbing at each other with long thrusting spears (WP1, fig.83). These spears each have a *sauroter*, which is shaped somewhat like a finial or an hourglass.



The paintings from Paestum depict many duels in which warriors who are engaged in close combat have been previously wounded by javelins. These images correspond to the description of fighting given by Ennius in the 3<sup>rd</sup> century BC, when he states 'after they were tired out from standing and spattering each other with loop-handled lances (*hastis ansatis*), they engaged with javelins on all sides' (III.160-161). This is one of the earliest descriptions of Italic combat and from a writer who had served as an allied soldier from southern Italy during the 2<sup>nd</sup> Punic War. What is clearly evident from Ennius' account and these paintings is that an exchange of javelins occurred before warriors would engage in close combat. This method of fighting gave the warrior the potential to kill, or more probably, wound an enemy from afar. The specialised throwing weapons and features like the *amentum* certainly increased the possibility to disable an adversary. In the rush to hand to hand fighting which followed the warrior would have had a distinct advantage over an enemy who was already injured. Perhaps the most significant difference between this manner of fighting and that practised by the Romans in the 2<sup>nd</sup> century was that spears and javelins were used in close combat instead of swords.

### 7.9. The Distribution and Chronology of javelins and spears

The present sample of javelins and spears consists of 118 examples. This is only a fraction of the total number of these weapons which have been recovered from south Italic sites. An interesting point regarding this material is that the vast majority of javelins and spears come from known contexts, except for the 27 specimens from Pescara and private collections. Paestum is a site with one of the largest number of spearheads with 21 examples. Lavello has slightly more with 24 examples, but 18 of these are from a single burial. At present there is very little a distribution pattern of my current sample can tell us about the types of weapons being used throughout southern Italy as it is no way near as comprehensive as it should be.

### 7.10. The sword in Southern Italy

Representational sources seldom depict south Italic warriors equipped with swords and they are rarely featured as grave goods as well. When swords do appear in

images of combat they are almost always shown without a scabbard or baldric. Swords that appear in arming scenes, however, on Apulian and Lucanian vases are shown with scabbards and baldrics. A Lucanian *nestoris* in Boston depicts a woman bringing a short sword in a scabbard to a seated warrior (Schneider-Herrmann 1996: pl.6). In another similar arming scene on an Apulian *krater* dated 400-390, a woman again brings a short sword to a warrior with the added detail of the baldric hanging down (Trendall 1967: 16 (3/60). In Gnathia a tomb painting from the early 3<sup>rd</sup> century shows a frieze of arms among which is a single edged sword with a horse head hilt suspended from a baldric (WP45). It is evident from these paintings that when the sword was used it was carried from a baldric. As mentioned earlier south Italic bronze belts did not have any attachments for suspending a sword scabbard. The absence of swords in tomb and vase paintings seems to have been an artistic convention in which warriors were depicted with only their primary weapons, spears and javelins.

The types of sword used in southern Italy fall into two basic categories: the straight, double-edged sword with a cruciform hand-guard, which appears to be similar or identical to the types used by the Greeks. This weapon has long and short bladed versions (fig.70.4-5). A Greek sword with a cruciform guard of the short variety has been found in tomb 17/71 Metaponto, dating 490-480 (SA9, fig.70.4). This weapon is badly corroded and in three segments, which altogether measure approximately 42cm. A straight long sword, which has a blade that swells towards the point comes from tomb 97 at Campovalano (SA21, fig.70.5). The blade of this weapon measured 81cm long. A very similar sword at Pescara was of the same design but measured only 70cm long (SA10). Clearly there was some latitude in the manufacture of these swords and weapons of differing length might have been made for individual preferences.

The other type of sword is the single-edged sabre with an inward curving blade, similar to the well-known Iberian *falcata*, although in Greek contexts it was referred to as the *kopis* or *machaira* (Snodgrass 1999: 97; fig.70.1-3). Typically, this weapon has a very long blade and a hilt with a partially or completely enclosed hand guard. Xenophon comments that this type of sword was ideal for a cavalryman, he states; 'for harming the enemy we recommend the sabre (*μαχαίρα*) rather than the sword because, owing to his lofty position, the rider will find the cut with the Persian sabre more efficacious than the

thrust of the sword' (Xenophon *Art of Horsemanship* XII.11). Combined with the momentum of a horse this sabre could have been used with terrible effect. One of Alexander of Macedon's officers, Kleitos, struck a Persian at Graneikos with such a sword and cut his arm off (Arrian *Anabasis of Alexander* I.15.8).

Both double-edged straight and single-edged curved swords had been used in Italy since the 9<sup>th</sup> and 8<sup>th</sup> centuries, although javelins and spears seem to have remained the weapon of choice amongst most, if not all of the Italic peoples. The sword enjoys an iconic status among modern military historians and often overshadows the importance of other types of weapon. The increasing use of the sword is a development in Italic warfare which may have come relatively quite late, perhaps even beyond Roman hegemony in the 3<sup>rd</sup> century. The imagery we have from Livy of the sword being the decisive weapon in the 4<sup>th</sup> century does not correspond to representational and archaeological evidence and may be an anachronism from his own time. Ennius, who writes during the 3<sup>rd</sup> century, gives no such images of sword fighting rather he stresses the 'spattering of javelins' and then using them in close combat. It is possible that encounters with the Gauls, and other sword wielding peoples, such as the Iberians may have engendered a greater appreciation for the sword among the Italic peoples. Carrying the sword from a belt rather than a baldric is certainly indicative of an outside influence on the Italic peoples. The development of a Roman sword fighting technique, as described by Connolly, may not have evolved until the second Punic war or later (Connolly 1989: 358-363).

### 7.11. Swords in Paestum

Warriors are seldom depicted using swords in Paestan tomb paintings. The few paintings, which do feature the sword, are all duels and so probably represent warriors who are not Paestans. Two of these duels as seen in paintings (WP13) and (WP22) both dated 380-370, are of a very similar format and depict a warrior with a thrusting spear charging another with a straight edged double-bladed sword. The swordsman has already thrown a javelin at his enemy and wields his sword in an over the shoulder chopping blow. No scabbards or baldrics are visible in these paintings. The sword is similar in appearance to the longer Greek types with a cruciform hand guard. Another painting

from the end of the 4<sup>th</sup> century (WP7) depicts a duel between a warrior with a thrusting spear and another with a sword (fig.80). This painting is interesting in that it shows the warrior drawing his sword in the heat of combat. He holds his shield out before him while drawing the sword from a scabbard on his left side, which is suspended by a baldric. This weapon appears to be similar to the very short Greek-style stabbing swords.

Only three swords have been recovered from burials in Paestum. The earliest example is from tomb 174 Gaudò, dated 390-380, and is of the curved single-edged *machaira* variety (SA2, fig.70.3). This sword is 77.5cm long including an 8cm hilt, and measures 6cm at its widest point of the blade and 3cm at its narrowest. The hilt has a closed hand guard which would have been inlaid with pieces of wood or bone. The blade of this weapon, with its inward curve and heavily weighted end, was designed to deliver a cutting blow with tremendous impact, an ideal sword for a cavalryman striking from above or to finish off wounded enemies. Another curved single-edged sword was recovered from tomb 112 Andriuolo, although at present I have been unable to obtain the dimensions or a photograph of this weapon (SA1). Other examples of this type of sword are found throughout Italy, such as the specimen from the panoply of an Etruscan warrior at Lanuvium, which dates to the first half of the 5<sup>th</sup> century. Another *machaira* sword was found with a bronze belt from tomb XII Malpasso in Umbria, now in the Villa Guilla, which dates from the early 4<sup>th</sup> century. These examples show the widespread and long-lived popularity of this design among the Italic peoples. The other Paestan sword is from tomb 2/1957 Gaudò, dated 350-340, of which only 24cm of the blade survives to the point (SA3). It is a straight double-edged blade of sturdy construction that still had a substantial weight to it despite its corroded state. This sword had no median ridge along the blade and does not seem to be of Greek design. With only a portion of the blade extant and no part of the hilt available it is difficult to be certain exactly what type of sword this was.

### 7.12. The *gladius Hispaniensis*?

The Spanish sword, so called by Polybius in the 2<sup>nd</sup> century, is believed to be a weapon that was adopted by the Romans during their campaigns in Spain during the Second Punic War (Bishop and Coulston 1993: 53). The earliest existing example of this



weapon is cited as coming from the tomb of a Numidian prince and dated 130-110 (Feugere 2002: 80-81). This weapon was 67cm long and had a leather-covered wooden scabbard. No fittings were found to show how it was carried. Another specimen was found on the island of Delos with leather scabbard and fittings and is dated to around 70. There are however, two much earlier examples of the *gladius Hispaniensis*, which have been recovered at the Samnite sanctuary of Pietrabbondante and are dated to the late 4<sup>th</sup> or early 3<sup>rd</sup> centuries (SA16, SA17, fig.70.6). The equipment from this sanctuary appears to have been trophies taken from defeated enemies, perhaps even Romans. The two swords from Pietrabbondante are very similar to the example from Delos with the characteristic long tapering blade and even remains of the scabbards. One example measures 64.6cm in length and 7.3cm wide, while the other is 67.7cm in length and 5.6cm wide (Cianfarani 1980: 153). There are no remains of the rings or fittings to attach to a baldric or belt. I have discussed the possible origins of these two swords with Peter Connolly who stated, 'I think they have to be Celtic – the sloping shoulders suggest they are but the scabbard chapes look very un-Celtic and I have been unable to find a parallel' (pers. comm. 25 Feb. 2005). I am somewhat dubious of Connolly's Celtic attribution for these two weapons, in part because the scabbards are so similar to later Roman types and the blade of the weapon appears to be long and tapered. Most Celtic swords of the period do not have such a long tapering point. The two swords from Pietrabbondante are problematic and present a whole range of questions on their origin, and if correctly dated, the development of the *gladius Hispaniensis*.

### 7.13. The use of axes in Southern Italy

The axe has received scant attention in studies of classical weaponry. In representational sources the axe appears frequently as a secondary weapon, more often than the sword in Campanian vase painting. The axe used by south Italic warriors is characterised by a single-bladed, wedge-shaped head. In some instances a short square portion protrudes from the other half of the axe-head. Many of these axe heads appear to be quite small when compared to axes used as weapons from other periods. They are much more on the scale of tomahawks than the hefty battleaxes used during the dark ages. The axe is hafted onto a handle which is approximately 50-60cm in length based

on representational sources. Despite the length of the handle the axe is always depicted being held and used in combat with one hand.

The Capestrano warrior statue is equipped with not only with a sword and two javelins, but also an axe, which is held across his chest (fig.82). This sculptural detail is often overlooked, as axe head appears to be quite small compared to the scale of the other weapons in this statue. An example found in tomb 67 Alfedena (SA35) dated 500–480 was only 12.5cm long and was very similar to the axe depicted on the Capestrano statue (fig.71.1). Another specimen, however, from a 5<sup>th</sup> century tomb at Pontecagnano was around 25cm in length (SA34, fig.71.2). The head of the axe was rectangular and flared out slightly at its cutting edge. Archaeologists seem reluctant to classify axe as a weapon since it could also function as a tool. At the 4<sup>th</sup> century temple complex at Campochiaro, however, a number of miniature votive weapons were found including an axe head 8.4cm long (Cianfarani 1980: 208). South Italic vase paintings clearly show the axe being used as a weapon by warriors as well. The practice of using agricultural implements as weapons and vice versa reflects the dual nature of these artefacts. In Virgil's *Aeneid*, an Italic warrior boasts, 'to goad our bullocks' back we use a spear reversed' (Virgil IX.614). This statement epitomises the inseparability of the warrior and his weapons, and how warfare was integral part of south Italic society in general. Thucydides states that in an earlier period, 'all of Greece used to carry arms, you see, because houses were unfenced and travel was unsafe; and so they became accustomed to living everyday with weapons as foreigners do now' (Thucydides I.6). It would seem that a similar situation existed in Southern Italy of the 5<sup>th</sup> to 4<sup>th</sup> centuries. Silius Italicus alludes to this earlier weapon-bearing culture in his *Punica*, when Scipio had gone about rearming the Campanians with the pilum and iron armour, and that previously they had used lighter weapons, among them 'the light javelin and the axe, the countryman's tool' (*Punica* VIII.547).

If the axe was a weapon of convenience it was certainly a very effective one. I have examined several Negau type helmets in the Natural History Museum at Vienna, dating from the 6<sup>th</sup> and 5<sup>th</sup> centuries which were found in Northern Italy. These helmets display the unmistakable wedge shaped marks of where an axe has penetrated it. An interesting piece of representational evidence is the Certosa situla from the Venetic

people of north-eastern Italy. It is dated to the late 6<sup>th</sup> or early 5<sup>th</sup> centuries and shows marching warriors equipped with spears and various types of shields, as well as axe-men (Ducati 1923). A scene depicted on a Campanian krater in Toronto shows a warrior equipped with a triple-disc cuirass and an *aspis* about to despatch a kneeling foe with an overhand chopping blow from an axe (fig.71.5, Trendall 1967: 157/282). A similar scene is depicted on another krater at Capua Vetere and is dated 340-330, except that the blow appears to be delivered at a different angle. A Campanian neck-amphora at the Getty Museum, circa 375, depicts a warrior attacking a city on a scaling ladder (fig.71.4). In one hand he holds a torch, perhaps to throw over the walls into the city, or thrust in the faces of the defenders. His shield arm, however, holds a single-bladed axe. This is interesting because he is also equipped with a sword in a scabbard suspended from a baldric. Clearly, the axe was deemed more suitable a weapon for a city assault, when the head and the torso of the defender would have been the only portions of the body open to blows. On a krater at Naples a Campanian warrior is depicted with an axe cradled across his forearm and the pose is reminiscent of how a commander might hold a sceptre or baton (Fig.71.3, Trendall 1967: 175/9). The axe may also have been a symbol of power and authority among the south Italic peoples, or the Campanians at least. The Romans and Etruscans certainly understood the significance of the axe, as exemplified by the fasces and axes carried by the consul's lictors.

## **Chapter VIII: South Italic tunic patterns**

### **8.1. The significance of the south Italic tunic**

It is often the case that studies on the equipment of ancient armies are limited to the hardware (armour, helmets and weapons) of the warrior's panoply and do not include his clothing. Representational sources show the majority of south Italic warriors without body armour, wearing a tunic with only a shield and helmet for protection. In southern Italy the evidence for tunics is derived mainly from tomb and vase paintings, and to a lesser extent what is said in the literary sources. Depictions of warriors from Apulian, Campanian and Lucanian sources show a diverse array of tunic patterns which range from simple designs and motifs to the highly decorative. The tunics illustrated in tomb paintings have the added advantage of being in full colour and present a much more vivid image than is found on vases. The colours reveal the complexity of the tunic patterns and bring attention to the high degree of skill that had been achieved in south Italic dying and cloth production. It is clear from this evidence that different regions had their own styles of tunic decoration. This suggests that these patterns had significance beyond their purely decorative appeal. It seems probable that stylistic variation in tunic patterns was linked to regional or tribal affiliations and they may also have had other social or religious connotations.

The Roman writer, Strabo was aware of the diversity of material culture which existed among the Italic peoples before his own time, and commented that the individual identities of the Bruttii and Samnites had deteriorated so much that, 'their characteristic differences in language, armour, dress and the like, have completely disappeared' (Strabo VII.2). No activity is so representative of the 'us' versus 'them' mentality as warfare; dress and the accoutrements of war are excellent mediums through which group affiliations can be expressed and reinforced. In an era of shifting alliances, however, between tribes, states and communities, it is difficult to envisage how these affiliations were recognised. This is a complex and problematic topic and we must be aware of, and sensitive to, discrete differences, which might be used to express identity, especially when looking at culturally similar groups. A clear example of this differentiation in southern Italy can be seen in the tunic patterns of warriors depicted on vases from Apulia, Campania and Lucania. In all three areas warriors are dressed in an identical type of



short, belted tunic, but each of these show distinct regional differences in the way in which they are decorated. The primary references to the vases are Trendall's *The Red-Figured Vases of Lucania, Campania and Sicily* (1967), and Trendall and Cambitoglou's *The Red-Figured Vases of Apulia* (1978). A large number of new vases are also featured in Schneider-Herrmann's *Samnites of the 4<sup>th</sup> century BC* (1996).

This chapter examines the significance of the south Italic tunic and of the patterns found on them. Tunic patterns from tomb paintings have been analysed first because in most instances they can be firmly attributed to a particular site and dated with more precision. This is followed by an examination of tunic patterns found on south Italic red-figure vases, which are categorised as Apulian, Campanian and Lucanian. These are organised chronologically and questions regarding changing styles and attributions of identity are discussed. Another article of clothing used by south Italic warriors is the *perizoma*, or loincloth. This garment appears in representational sources and had a number of different forms and was sometimes decorated as well. The *perizoma* has been categorised according to its origin. Unfortunately, time constraints have prohibited me from examining other items of clothing used by south Italic warriors, such as footwear and headgear. A discussion of these items can be found in Schneider-Herrmann 1996: 20-37.

## 8.2 Shape and form of the south Italic tunic

The shape of the tunic is remarkably uniform across southern Italy and is quite distinctive. It seems to have been a fairly short and close fitting garment, which is always shown being worn with the bronze belt. Its appearance is similar to a type of long T-shirt, which is the result of the way the upper edges of the tunic hang down over the shoulders and across the upper arms. This draping effect creates a fold, which makes it appear as if the tunic has short sleeves. The true shape of these tunics is revealed by their depiction as trophies in which they are suspended from spears. The paintings show they were rectangular and without sleeves. Tunics were made from either a single or two pieces of cloth which were pinned or sewn at the side and shoulders with openings left for the arms and head. These depictions seem to correspond with Gellius' statement that the tunics of early Romans were sleeveless and that they regarded long sleeved ones as

absurd (Gellius *Noct. Act.* VI.xii.3). The excess fabric was often pulled up at the sides in neatly arranged pleats, which sometimes gave the lower hem of the tunic a downward curving apron-like appearance. In some instances the tunic is also pulled up at the back leaving the buttocks exposed. A Campanian *amphora* at Capua shows the tunic worn in this manner with the excess material secured under his bronze belt (Trendall 1967: 112/342). The design of this tunic was simple and functional and did not hinder the movements or actions of the warrior. While the south Italic tunic was certainly practical, the bright colours and decorative designs show that it often had an appearance that could border on the extravagant. Florus moralises that the Samnites were, 'a race which, if you would know its wealth, was clad, even to the point of ostentation, in gold and silver armour and motley coloured raiment' (Florus LXI.7).

Clothing is an item of material culture, which has often been used to communicate group identity to outsiders. The tunic and belt costume of the south Italic peoples is very distinctive and must have made a striking impression on the Greeks and Romans. A Campanian *hydria* in Boston dated 330-310, depicts the contrasts between the appearance of a south Italic warrior and two hoplite warriors, who may be Romans considering the date of the vase (Inv.1970.238). The difference in the shape and style of tunics is immediately evident. The gradations of rank and status within a society could also be expressed through clothing. The Romans for example, used a narrow or broad purple stripe tunic to signify a member of the equestrian order or the senate. In the Hellenistic world purple was a colour reserved for royalty or the cloaks of generals. Colour might be used to represent a certain class, or reinforce gender separation and roles, as in the case of the Spartiates who dressed in crimson cloaks and tunics because these were thought to least resemble those garments worn by women (Xenophon *Lac. Pol.* 11.3). By the 4<sup>th</sup> century, however, the warlike reputation of the Spartans led to the adoption of crimson clothing by many Greek mercenaries, and red was deemed an appropriate colour for soldier's tunics (Sekunda 1998: 20).

The colour of clothing might also carry religious connotations white for example was often symbolic of the wearer's purity or sacrosanctity. Livy states that the Samnite 'linen legion' was named after the linen covered enclosure in which they took a solemn oath never to desert their place in the battle-line or face terrible consequences. These

troops were equipped with finely made arms and crested helmets to make them stand out among the rest (Livy X.39). The tunics of the linen legion are described as dazzling white linen, while those of the other Samnite warriors were multi-coloured (Livy IX.40). This passage seems to suggest that multi-coloured tunics were the normal attire of the Samnites. The large array of tunic patterns depicted on Apulian, Campanian and Lucanian representational sources could certainly be interpreted as multi-coloured and probably reflect the decorative style of clothing characteristic of all south Italic peoples.

### **8.3. The economic and symbolic value of the tunic**

Even if we discount Florus's exaggerations of gilded and silvered armour, highly decorated tunics must have been fairly expensive items (I.XI.7). The time and dyes required to produce such colourfully patterned tunics would certainly have been greater and thus more costly than a plain one. Tunics of solid colour do appear, usually red or white, but these would have been either dyed or bleached, and thus still more costly than those of un-dyed wool or linen. It could be argued that the tunics depicted in south Italic tomb paintings represent the clothing of only the wealthiest segment of society. This might be true to a certain extent, but the tunics of armed attendants are not noticeably inferior to those worn by cavalrymen.

There are some interesting passages from Livy which give some insight into the value of a tunic during the 4<sup>th</sup> century. The Romans are often cited demanding tunics from their defeated enemies as items of booty for their soldiers. In other instances tunics are handed out as rewards to soldiers. Livy records that the Romans granted the Samnites a truce in 325, when they agreed 'to give each soldier a garment and a year's pay' (Livy VIII.36). In 309, the Etruscans were forced to supply the Romans a year's pay and 2 tunics for each soldier (Livy IX.41). In 307, the Hernici were granted a thirty day truce 'at a cost of two months pay and corn and a tunic for every soldier' (Livy IX.43). After a campaign against the Samnites in 343, the Roman general Cornelius rewarded a cohort of soldiers who had saved the army from being trapped with, 'a double ration of grain for life, and for the present an ox each and two tunics' (Livy VII.37).

These passages make it quite clear that the tunic was regarded as a commodity of some value. Perhaps the most explicit passage from Livy on the value of clothing during

this period states that the 82 bronze asses, cloak and tunic given to the soldiers was 'a reward for military service at that time by no means despised' (X.30). The production of clothing was one of the main contributions of women to the community and represented a significant output of their labour, skills and materials. The enforced tribute of such a large number of tunics to an enemy army would have been a crippling blow to the potential wealth of a community. Surveys in the Biferno Valley of the Molise region, in what was once part of Samnium, revealed that large numbers of loom weights were commonly found among scatters of pottery and tile associated with farmsteads (Barker 1977: 20). This suggests the existence of a widespread cottage industry in this region. The importance of sheep rearing, wool production, along with the evidence of weaving and the intricate coloured patterns all point to the value of textile production and a high degree of weaving skill in southern Italy. It is also evident from literary sources that both woollen and linen garments were made.

It is often difficult to reconcile modern concepts of what constitutes a military appearance with ancient attitudes. Weapons and armour are obvious indicators but clothing can be equally important in imparting the look of a warrior. It is therefore important to avoid thinking strictly in terms of uniforms and try to understand what was regarded as a fitting appearance for a warrior. Xenophon states that he arose ready for battle, 'in his finest dress. For he thought that if the gods should grant victory, the finest raiment was suited to victory, and if it should be his fate to die, then it was right for him to put on his best clothes and be wearing them when he met his death' (Xenophon *Anab.*3.2.7). The decorative appearance of many tunics in representational sources strongly suggests that similar attitudes were held among south Italic warriors, and that being properly equipped for battle implied being dressed in their finest clothing. Although not specifically a military uniform, patterned tunics and the manner in which they were worn with the bronze belt should be looked upon as a form of military regalia.

Livy scorns such pride in appearance through the words of encouragement he has the Roman general Papirius give his troops before fighting the Samnites: 'Crested helmets dealt no wounds, and Roman javelins could pierce shields which were painted and gilded; gleaming white tunics worn for battle would be stained with blood when swords came into action' (Livy X.39). Polybius, however, was a military man and



understood the psychological value that appearance could make, both on the soldier and his enemies. In describing the Roman soldier of the 2<sup>nd</sup> century Polybius tells us the crested helmet combined with the rest of the panoply 'made each man look about twice his real height, and gives him an appearance which strikes terror into the enemy' (Polybius VI.23). Display and appearance can serve to instill a sense of pride and esprit de corps, which helps provide a psychological edge in warfare. It is clear from paintings of south Italic warriors that they prided themselves in their warlike appearance.

#### **8.4. The value of the tunic as a trophy**

The tunic is frequently depicted in south Italic iconography as a trophy, suspended from the spear of a returning warrior or tied around the neck of his horse (Burns 2003: 50). Bloodstains are often visible on the trophy tunic. The frequency with which the tunic was singled out as an item of spoil implies it was looked upon as more than just another item of clothing. In the legend of the Horatii, two sets of triplets, the Horatii from Rome, and Curatii from Alba, fought a duel on behalf of their respective cities. This story, which allegedly takes place in the 7<sup>th</sup> century, is interesting for its details regarding clothing. The surviving Horatius returns to Rome victorious, at the head of the army, carrying his 'triple spoils' taken from the slain Curatii triplets. As the story goes, the sister of Horatius bursts into tears at the sight of the cloak she had made for her lover, one of the Curatii, which her brother carries over his shoulder as a trophy (Livy I.26). This is an intriguing detail, and one which relates well to the 'return of the warrior' image found in south Italic iconography of the 4<sup>th</sup> century. While the historicity of this story may be questioned, it is certain that Livy, writing in the 1<sup>st</sup> century, believed this tale to have taken place in Rome's heroic past. The particulars of Horatius' return described by Livy are drawn from heroic images which exist in the 4<sup>th</sup> century, but may indeed be much earlier. It also suggests that the 'return of the warrior' image was recognised among other Italic peoples outside southern Italy, although iconographic examples have yet to be found.

It appears that from an early date the clothing of a defeated enemy was deemed an appropriate item of spoil for a trophy. A literary fragment survives from the 3<sup>rd</sup> century poet, Ennius, a non-Roman from southern Italy who had served in the second Punic War.

It describes the aftermath of battle, and refers to, 'those they despoil and leave bodies bare' (Ennius *Varia* 18). The imagery of stripped corpses is powerful and would have brought shame and humiliation to the vanquished. Xenophon, recounting a battle between two rival factions from Athens, thought it significant to point out that 'the victors took possession of their arms, but they did not strip off the tunic of any citizen' (Xenophon *Hell.*2.4.19). It is evident that stripping off the tunic had some deeper meaning than other items of the panoply. The reluctance to despoil the dead completely seems to imply that this was an indignity reserved for foreign enemies. The iconographic evidence from Capua, Nola and Paestum suggests that a similar attitude was held among the peoples of southern Italy. The colours and patterns of tunics carried as trophies almost always differ from those worn by the victorious warrior, and seem to indicate these could be recognised and attributed to either friends or enemies.

In a very basic and graphic sense the bloodied tunic is a testimony to the expertise of the warrior, showing exactly where and how often he had struck his foe in battle. In the *Iliad* there is an almost obsessive concern for minute details describing where an enemy had been wounded, with what type of weapon, and most importantly the killing blow. These are undoubtedly fine points the listeners were interested in and were felt to be important in retelling an act of skill and bravery. The bloodstained tunic would have brought great prestige to the warrior, serving not only as visual proof of his valour, but as a point of reference from which the deeds he performed in battle could be recounted with accuracy to others. It seems clear that the tunic had tremendous significance as a trophy in a very real and personal way.

### **8.5. Tunic patterns from tomb paintings**

#### **Paestan tunics (numbers 1-25, figs.72-74):**

Tomb paintings from Paestum provide a corpus of tunic patterns from a specific location which can be dated with some degree of accuracy over a period of nearly 100 years (380-300). This offers the opportunity to establish a chronological framework which can be used to detect changes in patterns and style. It would seem that these paintings would provide a straightforward record of the tunic patterns used by Paestan warriors, but this is by no means certain. At first glance the variation in tunic designs

appears to be completely random and defy any sense of classification or purpose. We see this most definitely in the tunics carried as trophies by returning warriors. Almost always the patterns on these trophy tunics differ from those of the triumphant warriors, who are undoubtedly Paestans.

The largest grouping of warriors depicted in tomb paintings, and probably the most problematic to interpret, are the duellists. It is difficult to determine if these warriors are Paestans or prisoners of war forced or induced to fight in gladiatorial combats. The duels are often shown in conjunction with scenes of boxing and chariot racing, activities which are usually associated with funeral games. In many instances there appears to be a referee who sometimes holds a wreath above one of the duellists, indicating victory. This implies that although these combats were often to the death they are formal contests with rules. The duellists are usually depicted in identical tunics and equipment, which are different from those used by the returning warriors. This evidence seems to indicate that these duels are part of the funeral rites and were performed by warriors who are unlikely to have been Paestans. It is far more probable that the duellists were prisoners of war, armed and attired in their native fashion. The diversity of the duellists' attire between paintings is also noticeable, showing enemies who vary in appearance from Greek hoplites to Italic warriors in loincloths with variant type shields. Livy alludes to the formalisation of this practice, stating that the Campanians, 'in consequence of their pride and hatred of the Samnites, equipped after this fashion the gladiators who furnished them entertainment at their feasts, and bestowed on them the name of Samnites' (Livy IX.40). Although this passage is often taken to mean only the weapons and armour of the Samnites it seems likely that their distinctive clothing was also implied.

The tunics depicted in Paestan paintings have therefore been separated into two groups for stylistic and chronological analysis. The first group of tunics consists of those which are worn by warriors engaged in activities that seem most likely to be associated with Paestans: warriors returning victorious from battle, riding, hunting or armed attendants. The second group comprises those tunics which were less likely to have been Paestan; those carried as trophies or worn by duellists. Tomb paintings from Capua, Nola and Sarno, which have similar iconographic divisions, have been categorised for analysis

in the same manner. The numbers given to these tunics corresponds to the catalogue of images, which also include the attributed date underneath.

**Group one, the Paestans (numbers 1-14, figs.72-73):**

380-360: Paintings from tombs 12 and 18 Andriuolo, tomb 1 Gaudo, and tomb 1 Sequestro Finanza, all show warriors hunting or returning from battle with an identical patterned tunic (no.1). This example is a white tunic decorated with a single broad vertical red stripe down the centre of the tunic and along the hem, neckline and shoulders. A variation of this pattern is seen on a warrior racing a horse from tomb 271/1976 Arcioni, with two pairs of vertical red stripes running down from each shoulder (no.2).

360-350: During this decade warriors on horseback and an armed follower on foot are depicted in tombs 11/1967 C.V. di Agropoli and 1/1972 Gaudo, in solid red tunics (no.3). White tunics with red vertical decoration are still present but in a slightly different pattern than previously. The tunic depicted in tomb 1/1990 Arcioni has two vertical red stripes running down the centre of the tunic which are flanked by two red crosses (no.4). Decoration at the shoulders and hemline has become more elaborate with crenellated borders.

350-340: Tunics from this decade show a progression of decorative features on the previous patterns. A cavalryman depicted in tomb 61 Andriuolo for example wears a solid red tunic which has a black and white wave pattern along the hem, (no.5). He is accompanied by an armed attendant wearing a white tunic with a red band at the hem and neckline and for the first time horizontal decoration of thin black lines (no.6). This pattern is quite similar to those found on red-figure vases from Campania attributed to the same date and may indicate some influence from this region. The vertical patterned tunic makes its last appearance in Paestan painting during this decade. The warrior from tomb 84 Andriuolo, shows this pattern in its final form as two widely spaced vertical red bands and a black hem and neckline. A black band projects from the neckline down the chest of the tunic (no.7).



340-330: Tomb 58 Andriuolo shows a cavalryman with a more elaborate version of the red tunic of the previous decade in tomb 61 (no.8). On this tunic a black and white wave pattern has been added to the shoulders and neckline as well as along the hem. In tomb 86 Andriuolo an attendant wears a red tunic with a plain white border at the hem, neckline and shoulders (no.9). In this same tomb a warrior returning with a trophy is attired in a white tunic which has light grey wreath decoration around the neckline (no.10). Tomb 3 Vannullo shows a returning warrior with a white tunic with a red hem, neckline and shoulders from which pointed rays project. This tunic also shows the continued use of horizontal patterns, which in this instance is a line of red dots above the beltline (no.11).

330-320: In this decade tunics with horizontal decoration become much more elaborate using a multitude of different patterns. Tomb 2 Sequestra Finanza shows a charioteer with a white tunic decorated with alternating horizontal red dots, wavy and straight lines. The red bands at the neckline and shoulders have projecting pointed rays and crenellations along the hem (no.12).

320-290: In the last 30 years of tomb painting in Paestum there is a continued development and refinement of the horizontal tunic pattern. These tunics are uniformly white with black or dark purple patterns. Tombs 1 and 11 at Spinazzo show the integration of all previously used decorative patterns, which appear in alternating bands of dots, wreaths, straight and wavy lines. The hem, neckline and shoulders have a thick dark border usually with parallel wave decoration. Tassels, a feature common in Campanian tunics, appear on the corner of the sleeves (nos.13 and 14). The treatment of the tunics elaborate patterns is done in a very careful and delicate manner suggesting the artist wished to convey the fine quality of the clothing. Armed attendants are dressed in plain white tunics in contrast to the elaborately attired bearded elders and cavalrymen.

**Group two, unidentified warriors in Paestan paintings (numbers 15-25, figs.73-74):**

380-360: The tunics of duellists appear somewhat odd, with the portion below the beltline not matching the pattern above. It almost seems as if the artist did not fully understand

what he was painting, or perhaps rendering the image from a second hand description. In tomb 271/1976 Arcioni, a duellist wears a tunic in which the portion below the belt is partitioned into evenly spaced vertical strips that look suspiciously like *pteryges*. This might lead one to suppose the warrior is wearing a linen corselet. The upper half, however, does not appear to be a corselet, which *pteryges* would have been used with. Instead, it appears to be a tunic which has two vertical red lines with short projecting lines (no.15). The tunic of his adversary is largely solid red on its upper portion but has a horizontal band and wavy line above the beltline. Below the belt the pattern changes to two vertical red stripes which join with a band on the hem (no.16). Both of these tunic patterns are quite strange and unlike any others found elsewhere.

360-350: The tunics depicted on duellists in this decade continue to show unusual asymmetrical patterns. A warrior from tomb 1/1990 Arcioni, wears a white tunic with red decoration (no.17). The upper portion of the tunic has two vertical stripes running down the centre from the neckline to a horizontal band above the beltline. On either side of the vertical stripes are a number of red bird motifs. Below the belt the tunic is decorated with a series of wavy horizontal lines. The adversary of this warrior is attired in a tunic with a very unusual chequered pattern, while the hem, neckline and shoulders are decorated with a red band (no.18). Another pair of duellists from tomb 11/1967 C.V. di Agropoli, are dressed in near identical striped tunics. Both have four vertical red stripes on a white tunic, the only difference between the two is that one has a red band around the neckline (nos.19 and 20). These vertically striped tunics appear similar to those depicted in tombs from Nola (see no.44).

350-340: The only example from this decade is a bloodstained white tunic carried as a trophy in tomb 61 Andriuolo. The tunic has a horizontal pattern running across the chest of two black lines with a series of short vertical black marks between them (no.21). This appears similar in style to the patterns on tunics from Campanian vases, although there are no identical matches.

340-330: During this period the tunics of duellists appear much more decorative and symmetrical than previously. Two duellists from tomb 28 Andriuolo wear identical horizontal patterned tunics in which a wide red band runs across the upper portion, while below this are thinner bands and wavy lines (no.22). From tomb 58 Andriuolo is a pair of duellists with different tunic patterns; one is very similar to the triumphant warrior on another wall of this painting (no.23). This is the only instance I am aware of where a triumphant warrior and a duellist are similarly attired. It is difficult to determine the reason for this, perhaps this depicts a duel in which the triumphant warrior has decided to take part. Nonetheless, the overwhelming majority of duellists are equipped and dressed quite differently from triumphant warriors and it is the opinion of the author that this is meant to indicate they are captives or outsiders to the Paestans themselves. The other duellist wears a white tunic with red decoration at the hem, neckline and shoulders with a thick horizontal band in which pointed rays project from above and below the beltline (no.24). A very similar tunic pattern is found in Capua on a warrior who is returning triumphant (Benassai 2002: C17; Weege 1909: N.9).

330-320: A badly preserved slab, from an unknown tomb near San Nicola di Albandla, shows two duellists in identical white tunics with black horizontal decoration. Two thin lines run across the neckline and sleeves and at the hem, which also has a line of dots. Just above the beltline is a swastika symbol (no.25). Very similar tunics with the swastika motif have been found on Campanian and Lucanian vases (Trendall 1967: 401).

It is clear from this brief study of duellist's tunics that there is no clear pattern or progression of designs and motifs. In every case but one, tomb 58 Andriuolo, the tunic patterns of the duellists are markedly different than those of returning warriors. The early tunics seem a bizarre mixture of designs which do not form a coherent pattern above and below the beltline. A large number of duellists, however, appear nude or wearing only a short loincloth (*perizoma*) – these again contrast with the appearance of the returning warriors and their attendants.

**Capuan Tunics (numbers 26-37, figs.74-76):** Tomb paintings from Capua which depict warriors wearing tunics are dated from 340-300. This is a much shorter period than the

evidence from Paestum encompasses. The returning warrior is the most popular theme and is very similar in format to the Paestan examples. In many cases the contexts of these paintings are not known. A number of the Capuan paintings were destroyed during World War II and our knowledge of them comes from either photographs or watercolours (Weege 1909).

**Group one, the Capuans (numbers 26-30, figs.74-75):**

340-330: Two paintings show cavalrymen returning with spoils over their shoulders. They wear solid dark red tunics that have tassles on the corners (Weege 1909: N.5, Benassai 2002: C13). Solid red tunics are found on Paestan warriors but date 20 years earlier than the Capuan examples (no.26).

330-320: A returning warrior wears a solid red tunic that has a band of white and grey serrations at the neckline, while the hemline has a white band with black or red dots (no.27) (Weege 1909: N.7; Schneider-Herrmann 1996: pl.10). Another painting from tomb 14 San Prisco, shows a cavalryman with a decorated yellow/green tunic. Across the chest and stomach are two horizontal black lines, and around the neckline is a band of downward pointing serrations (Benassai 2002: C14) (no.28).

320-310: This painting shows a returning warrior wearing a white tunic decorated at the shoulders with red bands, although these do not extend along the neckline. Across the middle of the tunic and separated by his belt is a wide red band with projecting rays or points (no.29). Damage to the painting prohibits a view of the bottom edge of the tunic pointing upwards and downwards (Weege 1909: N.9; Benassai 2002: C17). This pattern is similar to that found on a duellist depicted in tomb 58 Andriuolo from Paestum dated to 340-330 (no.23).

310-300: From tomb 16 San Prisco is an infantryman carrying spoils in a red tunic, with what appears to be a white border along the neckline, shoulders and hem (no.30). The warrior's armour and *scutum* prevent viewing the tunic in its entirety. This tunic pattern is very similar to the Paestan example no.9, which is dated 340-330.



**Group two, unidentified warriors in Capuan paintings (numbers 31-37, figs.75-76):**

Most of the patterns in this group are derived from tunics being carried as trophies by returning warriors in group one. There are, however, two tombs which show warriors who are probably not Capuans. The first tomb depicts pair of duellists while the second shows a fallen warrior in a combat scene.

340-330: Tunic no.31 is carried as a bloodstained trophy. It is white with a simple red band running along the shoulders and neckline (Weege 1909: N.5; Benassai 2002: C13) (no.31). A similar tunic is seen on the example from a Campanian vase no.49. Another tunic, which is almost certainly not Capuan, is found on a warrior who is being ridden down by a cavalryman. The tunic is white with a wide red border around the neck and shoulders from which pointed rays project (Benassai 2002: 184-185) (no.32).

330-320: Tomb 14 San Prisco, shows a trophy tunic of alternating vertical red, white and grey stripes. Along the neckline, shoulders and hem are red bands (no.33). The style of this tunic is similar to examples found in Paestum and is discussed in greater detail below (Benassai 2002: C30). A variation of this tunic pattern appears in depictions of trophies and duellists (Weege 1909: N.7, 8, 11, 14). In this version there are two pairs of vertical grey stripes which are separated by single red stripes. The shoulder, neckline and hem have a red decorative border (nos.34 and 35). Another trophy tunic is depicted as white with dark red horizontal bands of dots, lines and upward pointing rays (no.36). Along the hemline is a thin band with short projecting lines. Three tassels are also seen on the bottom edge of the tunic.

320-310: This tunic is carried as a trophy and is white with two pairs of vertical thin lines, which run from the shoulders to the bottom edge (Weege 1909: N10) (no.37). A similarly decorated tunic is found on a cavalryman from Nola of contemporary (no.43).

In summary, tunics worn by warriors who are most probably Capuans tend to be either solid colours or with horizontal decoration, which is usually restricted to the upper

portion and hemline. Typical decorative features are bands and projecting rays. It is noticeable that there are no tunics of Capuan warriors with vertical decorative features. These do, however, appear on the tunics of duellists and those which are carried as trophies and are usually stripes or bars.

**Nolan Tunics (numbers 38-45, fig.76):** Tunics depicted in tomb paintings from Nola are all dated to within a very tight chronological period of around 20 years, from 330-310. Most of the Nolan tunics examined are worn by returning warriors; only a few are found being carried as trophies while none are from duels. These paintings, however, offer the opportunity to examine the diversity in patterns that could exist within a single community.

**Group one, the Nolani (numbers 38-44, fig.76):**

330-310: The Tomb of the Warrior's Return depicts five warriors who are all dressed in tunics with different patterns. In one panel of the painting three fully armed warriors, two on foot and one mounted, appear returning with trophies of a belts and a tunic. The first warrior has a red tunic decorated with a multitude of small blue squares outlined in white. The tunic has a thick blue and thin white border along the shoulders, neckline and hemline (no.38). The second warrior has a grey tunic decorated along the neck, shoulders and hem with an elaborate red and white border and a band paralleled by a red wave pattern (no.39). The third warrior has a red tunic with a blue and white border along the shoulders and neckline, similar to tunic no.38, but with no blue and white squares (no.40). Another wall panel from this tomb depicts two unarmoured warriors on horseback who are facing each other. One is shown wearing a dark red tunic with a black border on the shoulders, neck and hemline (no.41). The other has a white tunic with decoration of a black line paralleled by a black wave pattern. Across the chest of this tunic are three pairs of horizontal thin black lines (no.42). This last tunic is similar in style to those found in Paestan tombs, 1 and 11 Spinazzo, dated to 320-290 (see nos.13 and 14 above). On all of the warrior's tunics from this tomb there are tassels on the top corner of the short sleeves.

The Tomb of the Cavalryman, which is contemporary with the Tomb of the Warrior's Return, shows two mounted warriors returning with horse-borne trophies. Only the tunic of the armed attendant is visible. This tunic is a medium grey decorated by two thick black bands running vertically from the shoulders to the hemline (no.43). Another tomb depicts an infantryman with scutum who is wearing a white tunic with four broad vertical red stripes running from the shoulder and neckline to a thick red border on the hemline (no.44). This is very similar to the red striped tunics worn by duellists in Paestum, although these have been dated 360-350, and had carried as a trophy by a warrior from Sarno (see nos. 18, 19 and 47).

**Group two, unidentified tunics in Nolan paintings (number 45, fig.76):**

330-310: The tunics which are attributed to unidentified warriors all come from trophies carried by Nolan warriors. In the Tomb of the Warrior's Return the trophy tunic is highly decorated with a blue cross with notches running down its length and width. The four segments of the tunic divided by the cross are decorated with red panels which have a white rectangle at their centre. The hem and neckline are blue with tassels at the shoulders and along the bottom of the tunic (no.45). The ornate pattern of this tunic is unlike any worn by a Nolan warrior. Stylistically, it is similar to the highly decorative tunics found on Apulian vases, although none of these examples provide an exact match. This might suggest the trophy represents a tunic from a warrior of South-eastern Italy. In the Tomb of the Cavalryman both the warrior and his attendant have bloodstained white tunics which are suspended around their horses necks by bronze belts as trophies.

In summary Nolan tunics show a wide diversity of patterns for the small time frame of evidence. There seems to be a preference for red and grey tunics with blue or black decorative borders. Although one tunic shows horizontal decorative features, no.42, two others have vertical bands. The trophy tunics are unlike any of the tunics worn by Nolan warriors, being either white, or of the highly decorative red, white and blue example no.45.

**Sarno tunics (numbers 46-47, fig.77):** Recently a warrior burial was discovered at Galitta del Capitano near Sarno, which depicted a cavalryman returning with a tunic trophy (Lobell 2004: 36-39). This community is relatively close to Nola although stylistically the paintings appear similar to those from Capua dated to the last quarter of the 4<sup>th</sup> century (see tomb 14 San Prisco). The warrior from Sarno appears in a blue tunic with decoration of white dots and slashes around the neckline. This tunic is unusual for its bright blue colour, although the decorative pattern is not unknown in the region and similar in style to those depicted on Campanian vases (no.46). The warrior carries a white tunic with vertical red stripes as a trophy, which is like to those carried by Capuan warriors (no.47).

### **8.6. Tunic patterns from vase paintings**

Unlike with tomb paintings the vase painter could only indicate different colours by contrasting shades of red, white or black slip. In most vase paintings there is often much less detail, which is probably due to the nature of the medium. Despite this limitation painters were capable of depicting very ornately decorated tunics. This is especially evident on Apulian vases, a region for which there is very little evidence of tomb paintings. South Italian red-figure vases have a date span from approximately 420-300. Another drawback with vase paintings is that they cannot be attributed to a specific community with any certainty unlike tomb paintings. The most that can be hoped for are the broad regional labels of Campanian, Lucanian and Apulian which are based on the variation in painting styles and iconography (Trendall 1967, Trendal and Cambitoglou 1978). Nonetheless, the vases are a useful source of evidence to compare with the full colour patterns found in tomb paintings. Vase paintings also depict warriors in a wider variety of activities than tomb paintings, and are therefore not restricted to images related to funerary rites or of the returning warrior.

### **Campanian vases (numbers 48-60, figs.77-78):**

From the region of Campania, depictions of warriors in decorated tunics are dated 350-320. There appears to be a large amount of overlap in the time in which individual painters or workshops were producing these vases. The output of some painters even



spans the whole length of this period. Thus, it is difficult to determine a clear chronological sequence of tunic pattern development. It can only be noted what style of tunic decoration was prevalent in Campania during the second half of the 4<sup>th</sup> century. A large number of the warriors depicted on Campanian vases wear tunics with no decorative pattern at all. Solid colour tunics certainly do appear in Capuan tomb paintings but they are in the minority and most have some form of decorative pattern. Campanian tunic patterns tend to be quite simple compared to those from other regions. (figs 48-60).

Many Campanian tunics are only decorated on the upper portion of the garment, around the neck, shoulders and across the chest. The lower half of the tunic, below the belt is often left plain. The most common decorative motifs are thin horizontal bands or lines at the shoulder and neckline, sometimes along the bottom hem as well. Tunic no.49 shows the simplest version of this type with a plain band along the neckline and shoulders. Examples nos.50, 51, 52, 53 and 54, show the introduction of more decorative features, such as wider bands across the upper body, or multiple thin bands. Rows of dark or light dots, often alternating with the bands, are also used frequently. The swastika motif is found on tunic no.55, in the middle of the chest below the characteristic alternating bands and rows of light and dark dots. From 340 onwards a new decorative pattern is found on Campanian tunics of projecting crenellations, often with small dots as exemplified by nos. 57, 58, 59 and 60. The dots are also much reduced in size compared to those seen earlier. Tunic no.58 probably exemplifies the latest type of Campanian tunic with closely spaced horizontal lines and thin bands, with rows of small dots and crenellations.

#### **Lucanian vases (numbers 61-62, fig.78):**

Despite the large number of warriors in patterned tunics depicted in tombs at Paestum there are very few shown in vase paintings from this region. Many Lucanian vases have warriors who are depicted nude, or wearing only a loincloth. The evidence examined here comes from two kraters in the Louvre and Naples, which are dated 370-350. Both of the tunic patterns from these two kraters are very similar; two vertical lines running down the centre of the tunic flanked on either side by a pair of swastikas above

and below the beltline (nos. 61 and 62). A thin dark border is also seen along the shoulders, neckline and the hem. The example in the Louvre has a series of dots paralleling the vertical lines running down the chest, but only above the belt. The swastika motif does appear on the tunics of duellists from Paestum (no.25), but these are dated around 50 years later than these examples. Contemporary examples showing the swastika are sometimes found on Apulian vases (nos.66 and 70).

**Apulian vases (numbers 63-73, figs.78-79):**

The evidence for tunic patterns from Apulian vases dates from 410-320 (Trendall and Cambitoglou 1978). There is less overlap in the periods in which individual Apulian painters or workshops were active compared to Campania. Thus, it is easier to see a chronological sequence of tunic patterns from the vases of this region. Almost all Apulian warriors are depicted wearing highly decorated tunics, whereas plain examples are very rare. Apulian tunics tend to be some of the most ornate and intricate patterns found in any region of southern Italy, or in any medium. The style of decoration that characterises most Apulian tunics is an arrangement of vertical patterns, ranging from lines, bars and columns of dots. Two of the earliest tunics nos.63 and 64, dated 410-400, seem to be exceptions to the vertical style. These tunics have shoulders, neckline and hem decorated with dark projecting rays or cennelations. The light coloured middle area of the tunic is adorned with either regularly spaced dots or groups of four dots. All other examples, however, follow a vertical pattern.

Tunic no.65, dated 370-350, has three vertical lines which run down the centre and are flanked by a column of dots on either side. The neckline, shoulders and hem are decorated with bands. A contemporary example, no.66, has alternating pairs of vertical lines and columns of dots. The two columns of dots in the centre are topped by swastikas. Two tunics dating 360-340, nos.67 and 68, show new decorative features to the Apulian vertical style. Tunic 67 has a broad dark vertical panel bordered by two light bands, which is flanked by a column of dots on either side. At the top portion of the tunic the neckline and shoulders are decorated with the wave pattern motif, which first appears on Paestan tunics around 340 (see no.8). There are several variants of this patterned

tunic. The broad dark panel bordered by two light bands seems to have been the unifying feature. Tunic 68 displays another new type of decorative feature, wavy vertical lines.

Patterns which date from 350-330, nos.69-71, show increasing complexity and creativeness in the style of decoration. Tunic no.69 uses alternating light and dark vertical panels to serve as backgrounds to contrasting dots and wavy line motifs. The swastika motif is present on example no.70, and is framed between triple vertical lines, and dots at the shoulders. This pattern is somewhat similar in form to the Lucanian tunics, nos.61 and 62, which share the same decorative features arranged differently. Apulian tunic no.71 makes use of the broad dark panel bordered by light bands seen in tunic no.67, which slightly larger dots in column on either side. A new feature is the horizontal zig-zag pattern across the chest and what appears to be little pom-poms attached to the bottom edge of the tunic. Example no.72, dated 340-320, shows the use of contrasting vertical bands alternating with plain bands. The tunic patterns that appear at the end of the period 330-310, are usually very ornate with complex contrasting patterns. Tunic no.73 is a typical example, which integrates all the previous decorative features of light and dark bands with wavy and straight lines. Also evident are the pom-poms on the hem of the tunic and at the corner above the arms. The appearance of tunic no.73 seems to have some stylistic connection to the contemporary trophy tunic, no.45, depicted in a Nolan tomb painting.

The difference in the decorative patterns of Campanian and Apulian tunics is striking, and hints at altogether separate stylistic influences and traditions. It has been suggested that Apulian tunic patterns and decorative motifs show a Dalmatian influence, which is certainly possible considering the proximity of the region (Schneider-Herrmann 1996: 127-129). The amount of evidence for tunics on Lucanian vases is too meagre to make any specific comments, although, the vertical lines and swastika motifs show similarities with Apulian styles. The drawback with viewing patterns from vases is the limited amount of colours available. Campanian tunics would probably not appear so plain if these were shown in full colour. The painted tombs from Capua, Nola and Sarno certainly seem to indicate this. To a certain extent, however, the painting styles of the artists themselves may influence how detailed or basic the patterns of tunics are depicted

on vases. Those vases identified as being from a particular workshop or painter often show warriors in a pattern of tunic which can sometimes be regarded as a trademark. These tunics however, never deviate too far from the prevailing style of decoration associated with other vase painters from that particular region.

### **8.7. Attributing tunic patterns to specific groups:**

In Capua the vertically striped tunic is the most common tunic pattern displayed as a trophy or worn by duellists. In Paestum there is also a pair of duellists in vertically striped tunics. The single example from Sarno also shows the vertical striped tunic as a trophy. It is intriguing that in Nola there is a returning warrior actually attired in the vertical red striped tunic pattern from the same period. This is far from conclusive evidence that the vertical striped tunics found in Capua and Paestum represent warriors from Nola, as there were certainly other patterns in use. It is, however, worth mentioning that these paintings were rendered during the period of 330-310, when the conflict known in literary sources as the Second Samnite War was being waged. The city of Nola, and probably other communities in southern Campania, were allies of the Samnites for at least part of this conflict. In 328-7, a force of '2,000 soldiers from Nola and 4,000 Samnites had been given entry to Palaeopolis', (a suburb of Naples), and occupied the city until forced out by the Romans and their allies (Livy VIII.23). The Nolani were still allied to the Samnites in 313, when their city was besieged and eventually captured by the Romans (Livy IX.28).

Although there are no literary descriptions of the Nolan soldiers, the tomb paintings provide a very detailed picture which corresponds to this 20 year period precisely. The fact that many Capuan warriors from the same period are found carrying very similar style tunics as trophies may not be a total coincidence. The Romans and Samnites were the main protagonists in this war and records of their activities often exclude mention of their allies. Individual communities within Campania and Lucania certainly participated on either one side or the other. The Romans initially went to war with the Samnites in 343, to protect Capua from attack (Livy VII.31). In 321, after the devastating defeat of the Romans by the Samnites at the Caudine forks, the Capuans 'generously sent insignia of office to the consuls, along with arms, horses, clothing and



provisions for the men, and as the army approached Capua, the entire senate and people came out to meet it' (Livy IX.6). It seems highly likely that during the Second Samnite War, 328-304, the Capuans and Nolani, as respective allies of the Romans and Samnites, fought against one another, probably using this larger conflict as an opportunity to settle scores or further their own ends locally within Campania. The vertical striped tunics worn by the Nolani infantryman, and carried as trophies by the Capuan cavalrymen, certainly hint at such an episode.

### 8.8. The *perizoma*:

Another article of clothing which south Italic warriors are often depicted wearing was a type of loincloth or kilt, referred to in Greek sources as the *perizoma*, and in Latin as the *subligalicum*. The *perizoma* appears in Apulian, Campanian and Lucanian vase paintings and in Paestan tomb paintings. This garment is even found on a tomb painting in Rome where it is purported to depict Samnites. Most of these representational sources are dated from the beginning to the end of the 4<sup>th</sup> century. Unlike the south Italic tunic the form of the *perizoma* varies considerably even within the same region. In some instances this garment is similar to a small apron covering the extremities in the front, in others it has a very pointed triangular shape and could be embellished with tassels. Vase paintings often show more than one view of the *perizoma* and it can be seen that the buttocks were often left exposed. There are also examples which show a close resemblance to the shape of the lower half of the south Italic tunic. It is difficult, however, to determine the relationship between the two garments. The manner in which the tunic is hiked up at the sides into neatly arranged pleats appears to mimic the *perizoma*. The lower hem of the garment often curves downward like that of the tunic and is held in place by a bronze belt. It is possible that the *perizoma* was the more traditional garment. The earliest depiction of the *perizoma* from the central Apennine region, is found on the Capestrano warrior statue no.10. In this case the *perizoma* is a short apron-like loincloth with a decorative border along the hem. It is belted covers the front of the warrior but leaves his buttocks exposed. This gives the *perizoma* a date of at least the 6<sup>th</sup> century in southern Italy.

**Apulian examples 1-3, fig.81:** The *perizoma* appears in a number of different varieties on Apulian vases and is dated 400-350. The earliest examples no.1, dated 400-380, are seen on a pair of warriors who are also equipped with type 3, rounded apex, variant shields (Trendall and Cambitoglou 1978: 3/61). The loincloth is suspended from a belt and takes the form of two triangles and decorated with a swastika motif which is sometimes found on tunics. There is also a single bead or pom-pom on the bottom point of the *perizoma*. The example in the British Museum, no.3, dated 380-360, depicts a victorious warrior in a tunic preparing to kill or capture a wounded enemy in a loincloth (Trendall and Cambitoglou 1978: 4/73). The *perizoma* is again worn with a belt in which a portion of fabric is visible above it. The shape of this garment is difficult to determine because the artist has attempted to render the folds in motion as the warrior falls backwards. The last type seen on Apulian vases dates from 370-350, no.2, and is from a leave taking scene with another warrior, who wears a tunic (Trendall and Cambitoglou 1978: 4/217). The *perizoma* is worn with a belt and decorated with horizontal wavy lines. Vertical lines shown on the side of the garment may be decorative but are more likely to represent the folds of the fabric and are similar to the way the lower half of the tunic is pleated.

**Campanian examples 4, 5, 8, fig.81:** Campanian loincloths all are worn with belts and have a similar downward curving apron shape, which resembles the bottom edge of south Italic tunics. These examples are dated 340-320, so the short time frame may account for the uniformity in appearance. On Campanian vases the *perizoma* is usually worn by duellists while warriors involved in other activities are almost always wear tunics. There are two views of example no.4 dated 340-330, showing the curving apron shape and a side view, which leaves the buttocks exposed (Trendall 1970: 704). Loincloth no.8 of the same date has the same shape but is decorated with little dots along the bottom of the hemline, suggesting pom-poms (Schneider-Herrmann 1996: pl.121). Example no.5 shows two opposing duellists and gives a front and back view of the garment. This loincloth appears to have been a type of bib which covered the lower extremities and was held in place by the belt, leaving the buttocks completely exposed (Schneider-Herrmann

1996: pl.1). The *perizoma* on this vase is decorated with tassles hanging from the hemline, similar to those found on example no.11 from Paestum.

**Lucanian examples 6, 7, 9, fig.81:** A variety of loincloths appear on Lucanian vases and are dated 400-320. All examples are worn with a broad bronze belt. Example no.6, dated 400-370 is from a battle scene, which shows two views of the *perizoma* (Schneider-Herrmann 1996: pl.27). Its frontal shape (not illustrated here) is slightly pointed, while from the side the buttocks are exposed and it tapers diagonally downwards. *Perizoma* no.9, dated 370-350, is from a duel scene in which a victorious warrior in a tunic ( see pattern no.62) is about to kill a fallen adversary in a loincloth and Corinthian type helmet (Trendall 1967: 401). The fallen warrior's *perizoma* is sharply pointed and decorated with V-shaped patterns and a fringe along the edge of the garment. It is held in place by a very broad belt. This is very similar in shape and style to the *perizoma* on the duellist from Paestum no.11 dated 350-340. Example no.7, dated 360-320, is from a battle scene in which cavalry in loincloths are charging nude hoplites (Schneider-Herrmann 1996: pl.28a). The painting is crudely rendered but it can be seen that the *perizoma* is decorated with two circles and a band along the hem.

**Paestan examples 11-13, fig.82:** In Paestum the *perizoma* is depicted being worn exclusively by duellists, and so are probably not Paestan warriors. Example no.11, from tomb 2/1972 Gaudio, dated 350-340, depicts a duellist with a variant type shield (WP28). The *perizoma* is triangular in shape, dark red with tassles along the hem and worn with a bronze belt. *Perizoma* no.12, from tomb 53 Andriuolo, dated 350-340, also depicts a duellist with a variant type shield and a triple-disc cuirass (WP2). The loincloth is white and has a similar shape to no.11 but is without tassels. An identically attired warrior charging from the opposite direction shows the back of the loincloth, which leaves the buttocks exposed. Example no.13, from tomb X Laghetto, dated 350-330, is from a scene depicting two pairs of duellists with round hoplite shields and thrusting spears (WP30). One set of duellists is nude while the other pair wears short dark loincloths without bronze belts.

**Roman example 14, fig.82:** This example comes from a tomb painting on the Esquiline, now at the Montemartini Museum in Rome and dates to the end of the 4<sup>th</sup> or early 3<sup>rd</sup> century. In this painting two commanders who are believed to be Samnites are depicted wearing a short type of plain white kilt. It is unclear from the condition of the painting if there is a belt. It differs from the majority of other loincloths described above as it covers the buttocks and has a straight hem. I have been informed that there is another wall painting from the Esquiline from the same period, which depicts a battle scene in which warriors wearing white tunics (presumably Romans) are fighting against those in white kilts (presumably Samnites). Unfortunately, I have not been able to locate an image or the whereabouts of this painting.

It is difficult to assess the precise role of the *perizoma* from south Italic representational sources alone. On a functional level the *perizoma* would have been an ideal type of garment to wear when engaged in strenuous activities, especially in hot climate of Southern Italy. In many instances they are little more than a covering over the extremities. Herodotus, in discussing the mores of modesty among the Lydians of Asia Minor states, 'as for practically all other barbarians, it is a great shame for even a man to be seen naked' (I.14). The association of the *perizoma* with the bronze belt shows this was an accepted form of attire for the warrior. But who were the warriors depicted in these loincloths or kilts? What status did they have? The images offer no easy answer. In Apulian sources, which are the earliest, 400-350, they appear in departure and returning scenes and intermixed with warriors wearing tunics. The *perizoma* is also shown on occasion in battle scenes in which warriors who wear this garment, are being defeated by those in tunics. Campanian vases, which date from 340-320, usually show warriors with the belted *perizoma* in duels against identically attired opponents. These are quite similar to the scenes depicted in Paestan tomb paintings and probably represent gladiatorial contests. The Lucanian vases, which are contemporary with the Apulian examples are perhaps the most provocative and warlike. In these images warriors dressed in loincloths are shown locked in battle on foot and horse with those in tunics. The battle scenes tend to be unsympathetic to the warriors in loincloths and in some instances, such as no.9, the triumph of those in tunics is implicit.



The Paestan tomb paintings, dated 350-330, show the *perizoma* being worn only by identically armed and attired duellists, and in no other genre does this garment appear. It is clear from this evidence that the warriors in loincloths are either duellists or adversaries in battle, only in Apulian iconography are they shown in leave taking scenes. The *perizoma* is almost always depicted being worn with the bronze belt and in Paestan and Apulian sources with variant type shields as well. Most often they are bare-chested, the sole example with armour is no.12 who wears a triple-disc cuirass. My general impression from these images is that the warriors attired in loincloths are outsiders, who are usually portrayed as enemies. The Roman evidence offers a tantalising clue to the possible identity of the warriors in loincloths. The Esquiline painting purportedly depicts historical events from the life of the tombs occupant. The dating of this tomb and the names written on the painting suggest an episode from the Samnite Wars. The Samnite commanders in loincloths are shown in stark contrast to the Roman leaders, who are dressed in tunics and toga.

## **Chapter IX: Questions and Conclusions**

### **9.1. Researching south Italic military equipment**

Our understanding of military equipment, its function, development and the meanings attached to it, can only be as comprehensive as the questions we ask of it. At the beginning of this thesis I posed a number of questions which the analysis of this equipment would hopefully shed some light on. These included: To what extent and at what level can identities be distinguished through military equipment in southern Italy during the 5<sup>th</sup> to 3<sup>rd</sup> centuries? What were some of the technical and tactical developments that occurred in arms and armour during this period? What does the panoply tell us about the culture and society of these peoples? And finally, what role does south Italic military equipment play in a wider historical context as part of a continuum of evolution and development in Roman Italy? Before these questions are addressed I wish to discuss two issues which are specific to the study of south Italic military equipment. The first issue relates to the nature of archaeological investigation in Southern Italy and how this is reflected by discrepancies in the distribution patterns of equipment. The second issue deals with the large and growing amount of armour which has appeared on the antiquities market and in private collections. Both of these concerns had a significant impact on my research and will undoubtedly have influenced some of the conclusions that were reached.

### **9.2. Archaeology and distribution patterns in Southern Italy**

One of the problems inherent with distribution patterns is that they often reflect areas of archaeological activity and artefact survival, rather than original distributions. It is evident from a comparison of my distribution maps that there is a paucity of archaeological remains from the central Apennine regions of Molise and Abruzzo, the ancient territories of the Samnites. The areas in which most material has been found are largely coastal regions of Campania, Basilicata and Puglia, the ancient territories of the Campanians, Lucanians and Apulians. These coastal regions have long been exposed to archaeological investigation and excavation. Paestum, which is perhaps the most significant site and has the largest concentration of both triple-disc and rectangular anatomical cuirasses, has been turning out large quantities of artefacts since the 18th

century. Substantial finds of armour have also been found at Ruvo, Canosa and Lavello. These are all sites that were located near ancient urban centres with substantial remains that were easily located and accessible.

In the mountainous interior of Molise and Abruzzo on the other hand, ancient remains are not so easy to find or reach. Sir William Gell writing in 1831 commented, 'the whole of the interior is yet unknown and a most interesting district for researches would be ancient Samnium . . . Certain brass ornaments and leather and brazen helmets have been found there, probably of very ancient date' (Gell 1976: 42). Even 170 years later Bell, Wilson and Wickham when discussing the archaeology of the region noted that, 'the area largely disappears from the literary record after Sulla's devastation of Samnium in 80 BC, and until recently little research or excavation has been carried out . . . Despite an increase in Samnite studies, we still know very little about Samnite settlement, rural or nucleated' (Bell, Wilson and Wickham 2002: 169). The difficulty Oakley noted was that these 'sites very often lie on steep, thickly wooded, and generally impenetrable lime-stone mountains - and their exploration thus presents an element of physical danger . . . Another relevant factor is that the glories of the ancient urban achievement have long dominated the finances available for archaeological work in Italy' (Oakley 1995: 2). I can only concur that in attempting to reach several hill-fort sites during the summers of 2002 and 2003, myself and a fellow archaeologist found ourselves hacking through thick brush and thorns, up extremely steep and difficult inclines. Trails which supposedly existed to these sites were so overgrown and poorly marked that it was difficult to locate or reach these areas, and it required a great deal of physical effort, hardship and aggravation to do so.

The lack of attention these highland regions has received in comparison to coastal areas highlights the unevenness of archaeological investigation and excavation. Other factors, which have also contributed to the paucity of finds in certain regions include variation in burial customs between communities, as those between Paestum and Pontecagnano. It is significant that there is a large amount of unprovenanced arms and armour which is either from old collections or on the antiquities market. Despite the considerable quantity of this material it adds little to present distribution patterns. The sale of south Italic armour, however, is a topic which requires more detailed discussion.

### 9.3. The sale of south Italic military equipment

One aspect of my research, which I had not anticipated would have such a large impact, was the amount of armour that is presently in the hands of private collectors and on the antiquities market. I was aware of certain items of south Italic military equipment being in private collections from various publications, or acquisitions and donations made to museums. For example, the Greek-style muscle cuirass (GC11) attributed to Apulia, which was donated to the Metropolitan Museum of Art, New York in 1992 by Estee Lauder, or the triple-disc cuirass (T33) bequeathed to the J. Paul Getty Museum from the Fleischmann collection. Nothing, however, could have prepared me for the vast amount of military equipment that is actually in private possession. In October 2001, Austrian collector Axel Guttmann died and his collection of ancient arms and armour was put up for auction through *Christies* in November 2002. I was stunned with the amount of helmets, armour, weapons and other items of equipment that was being put up for sale. Peter Connolly and myself had acquired permission to examine and photograph this material at *Christies* in Kensington before the auction took place. When studying the equipment I was interested to know how much Peter, who had been researching ancient armour since the 1970's, had seen before. His reply was 'not a bit of it' (Nov 2002).

One of the problems in plotting the distribution of south Italic military equipment is that so few pieces have reliable provenances. Many, because of their novelty and artistic appeal, have turned up on the antiquities market and in private collections. Often, the only record of these pieces is found in the catalogue of *Sotheby's* or some other dealer. While searching the internet I came across an 'Italic cuirass' from Apulia for sale on the internet. Other items have made their way into museums during the previous century with no firm provenance. The Italic anatomical cuirass in the Shefton museum, for example, was purchased by James Bomford Esq. in the 1850's, during one of his trips to Italy, and is described simply as South Italian. The collectable nature of these armours, then and now, has contributed to the activities of *clandestini*, or *tombaroli* (tomb robbers), and deprives us of the artefacts true contextual value. It has even encouraged the propagation of fakes and altered pieces, such as the Louvre's double-disc



cuirass, which resulted in the hypothesis of an intermediary armour type between the single and triple-disc cuirasses.

Since the 1970s, however, there has been a massive increase in the looting of tombs in southern Italy. Ricardo Elia conducted a study of Apulian red-figure vases which have appeared recently on the antiquities market. These vases come from exactly the same burial contexts in which military equipment is found. Elia's study directly parallels the amount of south Italic arms and armour, which have appeared on the market in recent years. Using Trendall and Cambitoglou's catalogue of red-figure vases as his reference source Elia found;

'while almost two centuries of collecting up to 1980 produced some 9,347 vases, the thirteen years following 1980 have produced 4,284 new vases. Equally revealing is where these new vases are found: whereas at the beginning of 1980 museums accounted for 74 per cent of all Apulian vases, private collectors 17 per cent and the market 9 per cent, the figures for the newly appearing material have dramatically shifted. Of the 4,284 vases appearing in 1980-1992, only 25 per cent were in museums, while 31 per cent were in private collections and a staggering 44 per cent were on the market' (Elia 2001:148).

Virtually all of these new vases are undocumented and unprovenanced. By comparing the numbers of vases recovered from archaeological excavations with those appearing on the market Elia estimated the *tombaroli* would have to loot 9 tombs to find a single red-figure vase (Elia 2001: 151). The amount of military equipment recovered from burials is far fewer than that of red-figured vases. Correspondingly, the number of tombs that would have to be excavated to produce a single helmet, breastplate or bronze belt would be much higher. These ratios are reflected in the prices they command on the antiquities market. For Example, from the 2004 auction of the Guttman collection a Campanian red-figure *krater* from the late 4<sup>th</sup> century was estimated at a value between £1,500-2,500. In contrast an Apulo-Corinthian helmet was estimated from £8,000-12,000, while a winged Samno-Attic helmet was valued at a staggering £70,000-90,000 (*Christies* 2004: 92-93, 99, 105). It is clear however, that an immense number of tombs, probably in their tens of thousands, have already been plundered in southern Italy alone, to feed an increasingly avaricious market.

The problem is a multifaceted one and there is no easy solution. The antiquities market is controlled by the economic principle of supply and demand. The large sums of

money, which these artefacts can fetch has resulted in many full-time looters in southern Italy. This has led to illicit excavations being conducted by large, well-organised gangs, who are sometimes so bold they use diggers and other earth-moving equipment. The Italian police have managed to break up three of these gangs in the last decade, resulting in the recovery of thousands of artefacts worth millions of pounds (Pastore 2001: 155). But even these highly publicised successes are unlikely to deter tomb raiders when there is so much money to be made in such a poor region of Italy.

Scholars and archaeologists may also inadvertently encourage the illicit trade in antiquities by offering their expertise on an object, therefore increasing its value. While publishing such antiquities helps to provide them with a pedigree and an air of legitimacy (Pastore 2001: 157). The largest private collections of south Italic antiquities are found in Italy, Britain, Germany, the United States, France and Switzerland. The antiquities market, however, is dominated by Britain and the United States, with *Sotheby's* and *Christies* as the two most prolific dealers (Elia 2001: 152). It is clear there needs to be more stringent international legislation against the illicit excavation and trade in antiquities. The legislation, however, must have the necessary law enforcement and judicial back up, so they can be enforced effectively and punished appropriately.

Despite the increase in legislation and efforts to curb the sale of illicit antiquities museums are often still found to be complicit in the purchase of unprovenanced artefacts of questionable legality. An article in the *Boston Globe*, for example, exposed the acquisition practices of the Museum of Fine Arts in Boston, which showed that little effort had been made (W.V. Robinson 27 Dec. 1998: A01). It was reported of the 71 classical artefacts that were donated or purchased by the MFA, between 1984 to 1987, only 10 had any recorded prior ownership or provenance. Archaeologist Murray McClellan of Boston University claimed, 'there is no doubt that there is a pattern by the MFA of acquiring looted material that was illegally excavated in Italy'. Among recent acquisitions by the MFA were large numbers of south Italic vases and an *aspis*, which is described simply as Greek but is likely to have been found in an Italic tomb. Its near pristine condition is unlike most shields found in deposits from Greek sanctuaries. Jerome Eisenberg, director of the Royal Athena Galleries of New York is reported by the *Boston Globe* to have commented, '98 per cent of items that are excavated offer no new

or useful information for archaeologists. So collectors and museums should be able to acquire these objects' (W.V. Robinson 27 Dec. 1998: A01). This outlook is astounding, and almost naive considering how important the context of an artefact is in understanding its origin, development and meaning.

#### **9.4. South Italic military equipment and identity**

Many items of the south Italic panoply, such as the triple-disc cuirass and tunic and belt costume are quite distinctive, and must have been immediately recognisable to outsiders. Livy's description of the Samnite army, while not totally reliable, at least acknowledges the distinctiveness of their equipment and seeks to differentiate it from that of the Roman army (IX.40). Across Southern Italy however, the clothing and accoutrements of these peoples seems to be relatively similar in appearance. Representational evidence, especially from the first half of the 4<sup>th</sup> century, show south Italic warriors returning with trophies taken from defeated enemies. These paintings indicate that the majority of these enemies were other south Italic warriors. We may therefore wonder to what extent could this equipment be used to express identity within Southern Italy and at what level? Identity is a complex and problematic topic and we must therefore be aware of, and sensitive to discrete differences which might be used to express identity, especially when looking at culturally similar groups.

The triple-disc cuirass was a distinctive type of armour which only rarely appears outside of Southern Italy. A profusion of varieties, however, have been found within this region which suggests this armour was produced at a local level. Distribution analysis shows that some triple-disc cuirasses, such as the type 1 Alfedena, type 2 Magna Graecia and the type 4 Northern, could be affiliated with certain areas within Southern Italy. To a limited extent this evidence seems to show expressions of regional identity through variation within an accepted form of armour. It is clear from the Paestan cuirasses, which span a period of over 100 years, that variation was not just a regional occurrence but that there were chronological developments as well. Changes in features of the cuirass, such as the increasing thinness of the rims, reduction and disappearance of lobes, differentiation between breast and back-plates and integral reinforcing strips show developments were occurring throughout Southern Italy.

The appearance of the Italic anatomical cuirass during the middle of the 4<sup>th</sup> century developed through a melding of ideas and traditions, combining Greek concepts in style and decoration with traditional Italic forms of armour design. It is probably not surprising that these early type 1 anatomical cuirasses were found predominantly in coastal regions of Campania, Lucania and Apulia, which were more open to Greek influences. But it is by no means certain if this type of equipment was representative of these coastal peoples as opposed to those in the highland regions. The appearance of a type 5 cuirass at Campobasso would suggest that at some point the Samnites eventually adopted this type of equipment. It is evident that there are no clear-cut answers regarding equipment and identity.

To a certain degree, variation in the style and decoration of equipment was probably perpetuated through inter-Italic warfare. No activity is so representative of the 'us' versus 'them' mentality as warfare: dress and the accoutrements of war are excellent media through which group affiliations could be expressed and reinforced. Perhaps one of the most potentially informative items of the panoply is the tunic with its decorative patterns. The standard appearance of the tunic and belt costume seems to indicate some sort of shared cultural practice among all the south Italic peoples. But the patterns they are decorated with vary considerably. At present only broad differences in tunic patterns can be discerned between regions based mainly on categories of vase painting. It can therefore be surmised that warriors depicted on Campanian vases preferred tunics decorated with simple horizontal lines and bands along the shoulder and neckline. While those on Apulian vases favoured intricate vertical patterns of wavy bands, lines and dots. Only with tomb paintings can tunic patterns be attributed to specific sites, although these are limited mainly to Capua, Nola and Paestum. Further compilation and analysis of these patterns are likely to reveal much more information and may help to shed light on the identity of the warriors who wear them. Shield devices are another possible source of evidence for identity. It is quite clear from vase paintings that different types of geometric and zoomorphic emblems were popular within certain regions. In Campania there was a clear preference for simple motifs that made use of large and small circles and discs. In Lucania a wider selection of designs were used, mainly variations of the eight and sixteen-pointed starburst. While in Apulia starbursts with club-shaped rays and



gorgon motifs were popular. Only in Paestum, however, are we able to attribute shield devices to a particular site, but even in this instance there is nothing that stands out as a symbol of a political or state identity. This suggests the meaning of these devices is something more personal, yet within a repertoire of motifs which were accepted within a particular area. Once again, further research is needed to yield a better understanding of the shield devices and their meanings.

When considering the archaeological evidence, it is significant that most military equipment comes from high status warrior burials. The predominance of certain types of armour in an area might therefore reflect elite tastes, as well as regional and ethnic affiliations. The Servian reforms of the 6<sup>th</sup> century are often used to show how different levels of wealth reflected variation in armaments (Livy I.43). A certain degree of caution must be used when applying the Servian model to other parts of Italy. Rome was a wealthy urban centre by 4<sup>th</sup> century standards and became progressively more so towards the end of the century. The gradations in wealth levels between the elite and the poorer classes in Rome were probably greater than those in many parts of Southern Italy and this would probably have been reflected in the different types of equipment used. The Roman model of armament distribution is most safely applied to the wealthy urban centres of southern Italy, such as Capua, Nola and Paestum. Indeed, the high proportion of cavalrymen depicted in representational sources from these sites suggests they were wealthy.

In less affluent or tribal regions, however, differences in wealth may not have been as stratified and thus variation in armament might be less evident. Among these regions we might expect to find more homogenous assemblages of equipment within a greater segment of the army. Livy, for example, describes the Samnites equipped in a relatively uniform manner and makes no mention of light troops. Omissions by Livy, however, are hardly solid evidence that the Samnites did not have less well-equipped troops. Nevertheless, there is no reason why a higher proportion of south Italic warriors could not have been equipped with the lighter triple-disc and anatomical cuirasses. They certainly would not have needed as much bronze to manufacture as the Greek-style muscle cuirass, nor would they have required special fitting. If this is true, the presence of Italic body armour in burials may not automatically denote high status. Bronze belts

which are found in these elite tombs are also found in very humble burials. The repairs found on these belts indicate that they were treasured possessions and are probably representative of warrior status. It is likely that the quality of the armour or the completeness of the panoply were more representative of high status. Highly decorated cuirasses and the use of additional forms of armour, such as greaves or leg guards would probably have cost significantly more.

### 9.5. Tactical and technical considerations

Analysis of the various types of armour used by the south Italic peoples shows there was a preference for lighter forms of equipment. It is quite clear from the harness type design of the triple-disc and anatomical cuirasses that little attempt was made to protect the entire torso. Italic warriors must have been profoundly aware of the difference in protection that this type of armour offered compared to the Greek-style muscle cuirasses. It would seem that the primary tactical considerations afforded by this type of armour were the increased mobility and agility. The fact that the Romans were using similar types of armour well into the 2<sup>nd</sup> century is indicative of their effectiveness and versatility (Livy VI.23). Other items of the panoply also show a concern with reducing the weight of the equipment, such as greaves which became increasingly thinner throughout the 5<sup>th</sup> and 4<sup>th</sup> centuries. This, however, was as much a technological advance as it was a tactical solution. The closer fit of the anatomical type greaves would have protected the leg better and made it less of a burden to wear. But it is clear from tomb and vase paintings that a large percentage of warriors did not use greaves at all. The increasing use of full-body shields in the late 4<sup>th</sup> century probably helped to contribute to the declining use of greaves. It is difficult to say at this point what role the Italic leg guards played. They appear to have been an alternative form of leg protection derived from an earlier native tradition and highlight the preference for lighter equipment.

Armour however, was a supplemental form of protection and the warrior's primary means of defence was his shield. Representational sources indicate that towards the end of the 4<sup>th</sup> and into the 3<sup>rd</sup> century the *scutum* had begun to be the most prevalent type of shield. The transition from the *aspis* to the *scutum* shows an increased concern with covering as much of the lower body as possible. Livy states that the Romans made

the switch from the *aspis* to the *scutum*, along with the thrusting spear to the *pilum*, all at once during the 4<sup>th</sup> century (Livy VIII.8). Representational evidence, however, suggests this was not as straight forward a transition in southern Italy as Livy implies it was for the Romans. Although the role of the variant type shields is not fully understood it is clear that they were used concurrently with the *aspis*. It is uncertain if the use of the variant type shields was of regional or social significance. They appear to have been a lighter form of shield and were perhaps a cheaper alternative to the *aspis*. The variant types were clearly a native tradition that was never entirely supplanted by the *aspis*, although both shields were eventually displaced by the *scutum* in the 3<sup>rd</sup> century.

South Italic weaponry however, offers some insight into the types of warfare that were being practised and why changes in shields probably occurred. The large variety of javelins and throwing spears indicate the south Italic peoples engaged in a more fluid method of fighting than the Greeks and Romans. This also helps to explain the concern for lighter forms of armour and the increasing size of shields. The development of *pilum*-type weapons with long shanks emphasises the need for weapons that could penetrate these shields and carry on to hit the man behind it. The widespread use of the *amentum* also indicates efforts were being made to maximise the penetrating power of all thrown javelins and spears. It seems that with the increasing improvements in throwing weapons that could pierce shields, the *aspis* did not offer enough lower leg protection and the variant types were of insufficient strength to provide an adequate defence. The emergence of the *scutum* as a sturdy, full body shield thus takes on particular significance as it overcame these deficiencies.

#### 9.6. Change and meaning in military equipment

It is easy to forget when categorising, examining and writing about ancient arms and armour that they were once prized personal possessions and symbols of status and group identity. In the modern era, where soldiers are issued equipment from supply depots, which is largely identical in appearance, one might imagine a much more impersonal attitude prevails towards these items. But this is not necessarily true. The author first entered military service in 1982, there were a large number of NCOs who had served in Vietnam, and in a unit such as ours, many of these men had extensive combat

experience. The younger soldiers regarded the veterans with a large degree of awe and in all things did they try to emulate them. At that time the Vietnam era cotton webbing was being gradually replaced by a new nylon version. All the veterans, however, still used the cotton webbing because it was soft, comfortable, easily adjustable and dependable. The nylon webbing was stiff and bright green when new, it was awkward to adjust until broken in, and had a hard plastic belt buckle that could break on occasion. The cotton belt had metal buckles, which never broke. The veterans were quick to condemn this new item of equipment and the younger soldiers followed their example, going to great lengths to obtain or purchase the cotton webbing. Wearing the new nylon webbing marked one as a 'newbee' or cherry, and the attributes of the equipment were often imparted on the soldier, if subconsciously, they were 'stiff, bright green when new, awkward to adjust until broken in, and just might break'. By wearing the cotton webbing one felt a sense of connection with the veterans and a belief that the equipment they used was better. Over the next seven years of the author's service most of the veterans departed and the nylon webbing was progressively superseded the cotton, until only a few unit members still used the 'old style' webbing.

Soldiers tend to be conservative in their attitudes towards equipment and weaponry. One could easily imagine older styles of equipment being retained for long periods of time simply through the agency of influence and tradition. Although this would be difficult to prove archaeologically it might explain why certain items of equipment were retained longer than others. The large number of bronze belts that show evidence of being repaired and the long-period in which some types of clasp remained in use, may be the result of such a scenario. The longevity of the triple-disc and anatomical cuirasses for two centuries or more might also have been indicative of traditional influences. While modern analogies should not be taken too far they can offer some insight to help us to better understand the equipment and make us more aware of the meanings which may be attached to equipment beyond it being simply a functional tool.

It is often tempting to attribute a particular date or innovator to changes in equipment and arms as if, at a specific moment, everyone started using a particular type of helmet or shield. In some rare instances this might be true, but far more often change is a constant which occurs gradually. Although the rate at which this change takes place



might be accelerated depending on the influences, needs and pressures. We must therefore be aware of the conditions and probable causes that might act as catalysts to facilitate change. The historical contexts in which these changes occurred are extremely important in understanding what forces were at work that encouraged the development and evolution of military equipment.

### **9.7. Historical context and the continuum of development**

While the study of south Italic military equipment could certainly be a topic in its own right its true value is as part of a larger continuum of development in relation to other military traditions. In Italy it forms a crucial link between the extensive research which has already been conducted on Greek and Roman military equipment. Most often, however, south Italic arms and armour have been examined as merely ancillary chapters to these two polarities. I will therefore discuss some of the misconceptions and biases which are often attributed to south Italic military equipment and attempt to highlight its importance. The historical contexts in which south Italic military equipment developed and evolved can be divided into two phases: the influence of Greek ideas and the impact of Roman hegemony. These correspond to the two phases of military conflict in southern Italy during the 5<sup>th</sup> to 3<sup>rd</sup> centuries mentioned in chapter one in which significant changes and developments in armour and weaponry took place. The first phase occurred from the last quarter of the 5<sup>th</sup> century to the first half of the 4<sup>th</sup> century, when Samnites and peoples related to them conquered Greek and Etruscan urban-centres along the coastal regions of Southern Italy. This period corresponds with the appearance of warrior burials with south Italic military equipment. It is characterised by a process of interaction in which Greek ideas and concepts in style and decoration were integrated into Italic forms of armour. This process occurred at different rates and intensity throughout Southern Italy and resulted in a number of regional variations. The second half of the 4<sup>th</sup> century, however, was a period in which there was a tremendous amount of upheaval and change resulting from Roman involvement in Southern Italy. The Samnite wars of the 4<sup>th</sup> century were a dynamic period in which the duration, scale and intensity of warfare were greater than ever before. Thus the opportunity and impetus for change in military equipment and tactics were also increased.

### 9.8. The influence of Greek ideas

Connolly states, 'Those Samnites who had migrated to the coast came into contact with the Greeks and their armour shows a strong Greek influence. There are hundreds of representations of these coastal Samnites; the difficulty is to determine which are Greek and which are Samnite elements' (Connolly 1981: 107). Unfortunately, few have recognised the interaction between the Greeks and the south Italic peoples as a process of adoption, adaption and modification. It is often claimed that the Italic peoples valued Greek arms and armour as prestige items, presumably based on their quality as much as their aesthetic appeal. Bottini states that the elite classes of Lucania, 'lost no time in adopting Greek arms and armour, which were more effective and showier than the traditional proto-historic ones' (Bottini 1996: 543). Many modern researchers have long taken a Helleno-centric view of military equipment in Southern Italy by presuming that the appearance of Greek-style arms in elite burials was widespread and chosen in preference to Italic versions. To a certain degree it is true that select items of Greek equipment were adopted, as the appearance of the aspis, greaves, muscle-cuirass and various types of helmets in burials indicate. But this was never so straightforward, immediate or complete a process as Bottini implies. When speaking of the spread of the hoplite panoply to the Etruscans and Romans Snodgrass states, 'we may assume that many of the Italic peoples farther south had also adopted hoplite armour; here too the finds on native sites continue to outnumber those from Greek ones' (Snodgrass 1999: 76). This is not surprising however, since the Greeks did not regularly bury their dead with arms and armour. What Snodgrass does not mention is that the majority of military equipment found on Italic sites is not Greek.

In many instances the impact of Greek armour has been overemphasised at the expense of the Italic equipment's importance. While the Greeks certainly had a significant influence on the Italic peoples the archaeological evidence shows that traditional forms of armour still remained in use by the majority of warriors. From my present data sample it can be seen that a total of 68 triple-disc and Italic anatomical cuirasses have been recovered, compared to only 28 Greek-style muscle cuirasses. While only 35 sets of Italic leg guards have been listed in my data tables compared to the 44 sets

of Greek-style greaves, this does not include the further 18 sets of leg guards listed in the Guttmann collection catalogue mentioned in chapter four. The continued development in Italic methods of armour design underwent a type of renaissance during the middle of the 4<sup>th</sup> century with the appearance of the anatomical cuirass with its Greek style decoration. Italic forms showed sufficient resilience to survive the introduction of Greek types and dynamic enough to integrate and adapt these foreign ideas while still retaining their distinctive identity. The supposed abandonment of inferior Italic equipment in favour of superior Greek types was in fact a complex and gradual process of interaction, adoption and modification. This was characterised by Greek designs which have been Italicised and Italic designs which have been Hellenised, the result of this melding process is distinctively south Italic.

Helleno-centric scholars, however, have often interpreted Italic modifications in equipment design as degenerations of Greek originals into either poorly constructed native versions or non-functional ritual items. Snodgrass states that elements of the Greek hoplite panoply lived on in Italy, 'though in a grievously distorted form, reminiscent of the debased armour and anti-functional shapes cultivated at the end of the great age of plate, in the 16<sup>th</sup> century AD' (Snodgrass 1999:128). Jarva's interpretation of the Italic leg-guard, as a non-functional derivative of the earlier Greek ankle-guard, is a prime example of this predisposition (Jarva 1995: 103-104). At no point does he consider the possibility that this was a functional piece of equipment. In tracing the development of armour in Southern Italy, it seems that the Italic peoples were open to outside influences but still clung to traditional forms and concepts of armour design with which they were familiar. New ideas and influences from Greek armour were often translated and integrated into existing types of equipment, piecemeal and over time.

The integration of anatomical features into Italic armour design probably first manifested itself with the appearance of the triple-disc cuirass. The use of discs to create an abstract representation of the torso shows a profound understanding of Greek concepts but a decidedly Italic way of realising them. It is also evident that other south Italic peoples, most notably those in south-eastern regions were quite capable of producing their own Greek-style muscle cuirasses which were virtually identical to actual Greek versions. What must be recognised is that these two forms of armour design coexisted

and the Italic equipment continued to develop and evolve, perhaps even outliving the Greek types. It is clear, however, that both types of armour fulfilled different needs and tastes. It is interesting that while the Greek-style muscle cuirass appears to have had a significant impact on Italic armour design and decoration, the linen corselet did not. This suggests that the triple-disc cuirass provided an adequate alternative as a lighter form of armour. This might have also been a conscious decision on the part of many south Italic peoples to use equipment which was emblematic of their identity. Other factors, such as the relative ease, with which these cuirasses could be produced and their lower cost compared to Greek-style muscle cuirasses, probably contributed to their popularity. It is most likely however, a combination of these factors that led to development and change.

Polybius comments on the Roman adoption of Greek cavalry equipment stating that they 'began to copy Greek arms, for this is one of their strong points: no people are more willing to adopt new customs and emulate what they see is better done by others' (VI.25). Most modern scholars look upon the Romans adoption of foreign equipment and ideas as a positive aspect. Bishop and Coulston surmise, 'one of the great strengths of the Roman army was its willingness and ability to learn from contacts with enemies who possessed some sort of technological superiority. Thus, by the 1<sup>st</sup> century A.D., much of the soldier's equipment was derived from enemies of earlier days' (Bishop and Coulston 1993: 194). Feugere even states, 'since ancient times the uniquely Roman knack of borrowing equipment and habits from others . . . has been widely recognised' (Feugere 2002: 210). But was this truly a 'uniquely' Roman trait? The archaeological evidence shows that the south Italic peoples were just as willing and able to learn from their enemies, and it is with this outlook that their adoption and modification of certain items of Greek equipment should be viewed.

### **9.9. The impact of Roman hegemony**

In the wider context of ancient military studies what role did the south Italic panoply play? Traditional views on this topic have never seriously investigated the contribution of the Italic peoples. Those examining the development of the Roman army and its equipment seldom consider its origins before the 3<sup>rd</sup> century BC. Little attempt has been made to understand the technical and tactical developments that occurred in



Italy before this period, and the interaction between Rome and other Italic peoples.

Lawrence Keppie, in *The Making of the Roman Army*, passes over the Italic allies with the brief summary that, 'as far as can be determined, they were organised and equipped in more or less identical fashion to the Romans, with their own distinctive arms and tactics being gradually subsumed' (Keppie 1984: 22). This is a typically Romano-centric view, and equates the subsuming of distinctive arms and tactics with the Romanisation of the Italic allies. This ignores a wealth of archaeological and representational evidence from the formative period of the 4<sup>th</sup> century, which shows that many items of equipment and tactical innovations, which are commonly associated with the 'Roman' legion were already in use by the various Italic peoples long before Roman hegemony.

It is clear from the evidence presented in this thesis that the south Italic peoples were well acquainted with the *pilum* and *scutum* long before the advent of Roman hegemony. Roman sources in fact state that they, 'borrowed most of their armour and weapons from the Samnites' (Sallust *Cat.* 51.42-45). The *Ineditum Vaticanum* is even more specific and states:

'... the Samnite oblong shield was not part of our national equipment, nor did we have javelins, but fought with round shields and spears . . . But when we found ourselves at war with the Samnites, we armed ourselves with their oblong shields and javelins . . . and by copying foreign arms we became masters of those who thought so highly of themselves'.

Diodorus concurs with this passage and asserts that it was through the deliberate adoption of weapons and tactics that were 'imitated' from the Samnites, 'who introduced the excellent models' that the Roman legion emerged (Diodorus Siculus 23.2).

What is certain is that at the beginning of the 4<sup>th</sup> century the Roman army was armed and equipped as a hoplite phalanx, but by the end of this century it was fighting in a much more flexible manner using the *pilum* and *scutum*. It has often been argued that this transition occurred after the Roman defeat by the Gauls at Allia in 386 (Livy IV.59, Plutarch *Cam.* 40.4). But while this was certainly a devastating blow to Roman morale it was hardly instructive, and it is unlikely that a single incident or a single innovator, such as Camillus, was responsible for such far reaching and fundamental changes. While it is true that certain items of Gallic equipment were adopted, such as the Montefortino helmet and mail armour, but their tactics were not. Significantly, many of the south Italic

peoples had also adopted items of Gallic equipment. It seems doubtful, however, that the Roman manipular legion emerged through a process of self-inspired changes, uninfluenced by the weapons and tactics of other Italic peoples. It is far more probable that the Romans copied manipular tactics from an enemy, or allies, who had shown this formation and method of fighting was more effective and versatile than the hoplite phalanx over a prolonged period of time.

The Samnite wars, during the second half of the 4<sup>th</sup> century are the most convincing period of when these changes took place. According to Livy Rome was engaged in almost 50 years of continuous conflict, from the First Samnite war in 343 to the conclusion of the Third Samnite war in 292. Livy in his introduction to the Samnite wars states, 'from now on the wars described will be of greater importance. Our enemies were more powerful, and campaigns lasted longer and were mounted in more remote areas' (Livy VII.29). While this passage may seem a bit melodramatic it is a valid and accurate observation. The wars during the second half of the 4<sup>th</sup> century were indeed of longer duration, involving grander alliances, and larger armies, moving greater distances than ever before. At one point or another the Samnite wars would come to engulf virtually every people in peninsular Italy as either allies or enemies of the Romans or Samnites. The pan-Italic nature of these wars would have had a tremendous impact on the development of warfare. 'The intensity of interaction between the various Italic peoples, with their distinct military traditions, exposed them to a greater range of influences and ideas. It is likely to have encouraged the modification and adoption of more efficient equipment and tactics, and acted as a catalyst in speeding up processes of development already in motion' (Burns 2002: 4). Literary and archaeological evidence indicate that the Samnites and probably other south Italic peoples had a significant influence on the Romans. It is in this capacity that significance of south Italic military equipment can be viewed, as part of a continuum evolution and development that would eventually lead to the emergence of the Roman legion.

### **9.9. The original contribution of this research**

Snodgrass states that part of his motive for writing a book on the arms and armour of the Greeks was that the state of evidence for this material 'is so fragmentary, and its

meaning at times so ambiguous, that no book has, to my knowledge, been attempted on the whole of the subject before' (Snodgrass 1999: 9). He also wished to encourage a widespread and general interest in the material set against a historical background. Bishop and Coulston also wished to bring 'the field of Roman military equipment studies to a wider audience' (1993:12). They hoped it would provide a window to the practical workings of the Roman army and illuminate its role within culture and society as a whole. Both of these works fulfilled a need in coming to grips with the material and integrating it with other sources of evidence to present a fuller and more coherent picture. More importantly, the questions they were asking of the equipment went far beyond the narrow art-historical or typological studies that had preceded them. It made arms and armour relevant not just in military contexts but in the study of Greek and Roman societies in general. It is my intention that the contribution of my research will perform a similar function for the south Italic material.

Perhaps the most important contribution of this thesis has been to bring together a large and disparate amount of material and information and analyse it as part of a comprehensive whole. It is the first time the south Italic panoply has ever been examined in such detail and it is long overdue. South Italic military equipment is almost always examined in the light of Greek or later Roman armour and not within its own contexts or as part of a continuum. This research enlightens us about the south Italic peoples in a very real and practical way. Their material culture has long been the domain of pre-historians and art connoisseurs, and an area of research which has been largely neglected by military historians and archaeologists. I have used Bishop and Coulston's *Roman Military Equipment* and Snodgrass' *Greek Arms and Armor* as models, although my approach has differed by examining the separate categories of equipment. Both are ground breaking works and I believe there should be a separate volume on the south Italic material as well. This research will fill a gap in our understanding and knowledge of ancient military equipment from Southern Italy.

If my research has shown anything about south Italic military equipment it is how much more work there is to be done. I have discussed this topic with Peter Connolly many times and at great length – most notably during a two-week research trip to Italy in 2002 during which we examined south Italic equipment at numerous museums and

collections between Ascoli and Taranto. This material needs to be brought into the wider historical community for a greater amount discussion and examination. During the course of researching my thesis I have published three articles to contribute to this goal. In the first I examined the homogenisation of military equipment under the Roman republic. This paper brought attention to the importance of the south Italic material and its place in the continuum between early Italic, Greek and later Roman equipment. An article on the significance of the trophy in south Italic iconography focused on the role of military equipment within society and concepts of honour and valour in war. In a third article I examined south Italic fighting technique through the analysis of arms and armour. Currently, I am at work on an article which will update Connolly's 1986 paper, 'notes on the development of breastplates in southern Italy'.

It is my intention to write a book for general readership on south Italic military equipment, perhaps in the context of the Samnite invasions of the coastal areas and the wars against Rome. My purpose is twofold: what little there is written on south Italic military equipment in popular publications is in desperate need of being updated and corrected. It is also my hope to strike up interest in this topic and encourage others to contribute to further research. There is of course the need for a very solid academic publication on this equipment, which will hopefully provide a reliable resource to those studying this equipment. New finds of military equipment and representational evidence from southern Italy are regularly being 'discovered' or appearing on the art market. It is hoped these new finds could be integrated into the existing corpus of evidence to contribute to our overall understanding. In the future I would also like to push back the chronological boundaries of my research into the proto-historic period of the 11<sup>th</sup> to 6<sup>th</sup> centuries. This material has been analysed almost exclusively by pre-historians and it is important that this too be brought into the continuum of weapon and armour development in Italy.



## Bibliography

- Adam, A. and Rouveret, A. 1986. *Guerre et Societes en Italie Aux Ve et Ixe Siecles Avant J-C*, L'Ecole Normale Superieure: Paris.
- Barker, G. 1977. 'The archaeology of Samnite settlement in Molise', *Antiquity*, LI: 20-24.
- Bell, T., Wickham, A., and Wilson, A. 2002. 'Tracking the Samnites: Landscape and Communications Routes in the Sangro Valley, Italy', *American Journal of Archaeology* 106: 169-89.
- Benassai, R. 2001. *La Pittura Dei Campani E Dei Sanniti*. Roma.
- Berard, C. (translated by D. Lyons), 1989. *A City of Images*. Princeton.
- Berard, C., and Durand, J. 1989. 'Entering the Imagery' in Berard 1989, 23-37.
- Best, G.P. 1969. *Thracian Peltasts and their Influence on Greek Warfare*. Wolters-Noordhoff Groningen.
- Bianco, S. 1996. *Greci, Enotri e Lucani nella Basilicata Meridionale*. Napoli.
- Bishop, M.C. and Coulston, J.C.N. 1993. *Roman Military Equipment from the Punic Wars to the Fall of Rome*, London.
- Bishop, M.C. 2002. *Lorica Segmentata*, I. Armatura press.
- Bonfante, L. 1975. *Etruscan Dress*. Baltimore.
- Borriello, M. and De Caro, S. (eds.) 1996. *I Greci in Occidente: La Magna Grecia nelle collezioni del Museo Archeologico di Napoli*. Naples.
- Born, H. 1993. *Restaurierung: Antiker Bronzewaffen*. Sammlung Axel Guttman: Berlin.
- Born, H. 1991. 'Zur Herstellung der Etruskischen Bronzehelme Mit Scheitelknauf'. *Archaeologisches Korrespondenzblatt*, 21: 73-77.
- Bottini, A. and Fresa, M.P. (eds.). 1991. *Forentum II. L'acropoli in eta classica*. Venosa.
- Bottini, A. 1993. *Armi gli strumenti della Guerra in Lucania*. Bari.
- Bottini, A. 1996. 'The Impact of the Greek Colonies on the Indigenous Peoples of Lucania' in Caratelli 1996, 541-548.
- Bouzek, J. 1998. 'Two Parts of Italic Armour in the Museum of Glass and Bijouterie at Jablonec Nad Nisou', *Studia Hercynia II*. Prague. 81-82.

- Bouzek, J. 1980. 'Unknown Italic Bronzes and Vases in Czechoslovak Collections', *Eirene*, 17: 65-72.
- Bouzek, J. 1973. 'Some Classical Bronzes in Prague', *Eirene*, 11: 91-97.
- Bradley, G. 2000. *Ancient Umbria*. Oxford.
- Brodie, N., Doole, J. and Renfrew, C. (eds.). 2001. *Trade in illicit antiquities: the destruction of the world's archaeological heritage*. Cambridge.
- Burns, M.T. 1999. *The Military Equipment and Methods of Warfare of the Samnites and other Oscan Speaking Peoples*, unpublished master's thesis, University of Massachusetts: Boston.
- Burns, M.T. 2002. 'The homogenisation of Italian military equipment under the Roman republic' in A. Merryweather and J. Prag (eds.), "'Romanization'? Proceedings of a post-graduate conference, Institute of Classical Studies, London, 2 November 2002', *Digressus* <http://www.digressus.org>
- Burns, M. T. 2003. 'Visible proofs of valour: the trophy in south Italic iconography of the fourth century BC', *Papers of the Institute of Archaeology*. 14: 42-56. University College London.
- Burns, M.T. 2005. 'South Italic Fighting Technique in the 4<sup>th</sup> Century BC' in Briault, C., Green, J., Kaldelis, A. and Steliatou, A. (eds.), *Symposium on Mediterranean Archaeology* 2003. British Archaeological Reports International series 1391: 15-19.
- Campanelli, A., and Faustoferri, A. (eds.). 1997. *Sacro E Natura Nell'Abruzzo Italico*. Chieti.
- Calzecchi-Onesti, G. and Sebastiani, S. 1991. *Le Armi Picene A Castel Sant'Angelo*. Roma.
- Cappelli, R. 2000. *Italia dei Sanniti*, Soprintendenza Archeologica Di Roma, Roma.
- Capini, S. 1991. *Samnium Archeologia del Molise*, Napoli.
- Caratelli, G.P. (ed.) 1987. *Magna Graecia: lo Sviluppo Politico, Sociale ed Economico*. Napoli.
- Caratelli, G.P. (ed.). 1996. *The Western Greeks*. London.
- Christies, 2002. *The Art of Warfare: The Axel Guttman Collection*, I. London.
- Christies, 2004. *The Axel Guttman Collection of Ancient Arms and Armour*, II. London.

Ciancio, A. 2003. *Museo Civico Archeologico Gravina in Puglia*. Comune di Gravina in Puglia, Gravina.

Cianfarani, V. 1969. *Antiche Civiltà d'Abruzzo*. Roma.

Cianfarani, V. 1970. *Culture Adriatiche d'Italia: Antichità tra Piceno e Sannio prima dei Romani*. Roma.

Cianfarani, V., (ed.). 1980. *Sannio, Pentri e Frentani dal VI al I sec. a.C.*, (Cat. mostra), Roma.

Cipriani, M. and Greco, E. 1996. *I Lucani a Paestum*. Paestum.

Cipriani, M. and Longo, F. 1996. *Poseidonia e i Lucani*. Napoli.

Cipriani, M., Pontrandolfo, A., and Rouveret, A. 1998. *Le Tombe Dipinte di Paestum*. Fondazione Paestum, Paestum.

Cipriani, M. 2000. 'Italici a Poseidonia nella seconda metà del V sec. a.c. Nuove Ricerche nella Necropoli del Gaudio' in *Paestum Scavi, Studi, Ricerche*. Paestum. 197-212.

Colonna, G. 1980/81. 'La Sicilia e il Tirreno nel V e IV Secolo', *Kokalos* 26-27: 157-183.

Colonna, G. 1997. 'Un Ercole Sabellico dal vallo di Adriano' in *Le Province Dell'Impero: Miscellanea in Onore Di Maria Floriani Squarciapino*, XLIX: 65-87.

Comstock and Vermuelle, C.C. 1971. *Greek Etruscan and Roman Bronzes in the Museum of Fine Arts, Boston*. Boston.

Connolly, P. 1981. *Greece and Rome at War*. London.

Connolly, P. 1986. 'Notes on the Development of Breastplates in Southern Italy' in *Italian Iron Age Artefacts in the British Museum*, London, 117-125.

Connolly, P. 1991. 'The Roman Fighting Technique Deduced from Armour and Weaponry' in *Roman Frontier Studies*. 358-363.

Connolly, P. 1997. 'Pilum, Gladius and Pugio in the Late Republic' in *Journal of Roman Military Equipment Studies*, 8: 41-57.

Connolly, P. 2000. 'The reconstruction and use of Roman weaponry in the second century BC', *Journal of Roman Military Equipment Studies*, 11: 43-46.

Connolly, P. 2000. 'Experiments with the sarissa – the Macedonian pike and cavalry lance – a functional view', *Journal of Roman Military Equipment Studies*, 11: 103-112.

- Cornell, T., and Rankov, B. (eds). 1996. *The Second Punic War A Reappraisal*, Institute of Classical studies: London.
- Couissin, P. 1930. 'Guerriers et Gladiateurs Samnites', *Revue Archeologique*, XXXII : 235-279.
- D'Agostino, B. 1996. 'The Impact of the Greek Colonies on the Indigenous Peoples of Campania' in Caratelli 1996, 533-540.
- De Juliis, E.M. 1996. 'The Impact of the Greek Colonies on the Indigenous Peoples of Apulia' in Caratelli 1996, 549-554.
- Dench, E. 1995. *From Barbarians to New Men*. Oxford.
- Dench, E. 1997. 'Sacred Springs to the Social War: myths of origins and questions of identity in the Central Apennines' in *Gender and Ethnicity in Italian Archaeology*, 43-51.
- D'Ercole, V. and Pellegrini, W. 1990. *The Archaeological Museum of Campi*. Pescara.
- Descoeudres, J.P. (ed). 1990. *Greek Colonists and Native Populations*. Oxford.
- Egg, M. 1986. *Italische Helme. Studien zu den altereisenzeitlichen Helmen Italiens und der Alpen*. Mainz.
- Elia, R.J. 2001. 'Analysis of the Looting, Selling and Collecting of Apulian Red-Figure Vases: a Quantitative Approach' in *Trade in illicit antiquities: the destruction of the world's archaeological heritage*. Cambridge. 145-153.
- Fabricotti, E. 1984. *I Sanniti di Abruzzo e Molise*, Universita di Chieti, Chieti.
- Feugere, M. (trans. M. Smith). 2002. *Weapons of the Romans*. London.
- Fortuna Fine Arts. 2003. *Living Long Ago*. New York
- Frederiksen, M.W. 1968. 'Campanian cavalry: A question of origins', *Darch* 2: 3-31.
- Frederiksen, M.W. 1984. *Campania*, Oxford.
- Gardiner, E.N. 1907. 'Throwing the Javelin', *Journal of Hellenic Studies*. 27: 271-308.
- Garlan, Y. 1975. *War in the Ancient World: a social history*, London.
- Giardino, C., Belardelli, C., and Malizia, A. 1991 'Power and the Individual in Funerary Ideology: the Emergence of the Aristocracy in the Villanovan Period in the Bologna Region' in Herring et al. 1991, 9-18.



- Giuliano, A. 1996. 'Greek Influence on Italic Art' in Caratelli 1996, 591-606.
- Gonen, R. 1975. *Weapons of the Ancient World*, Jerusalem.
- Greco, E., and P.G. Guzzo (eds.). 1992. *Laos II*, Taranto.
- Guzzo, P.G. 2001. 'Un elmo decorato da Mojo Alcantara' in *Naxos: a quarant'anni dall'inizio degli scavi*. Rome.
- Guzzo, P.G. 1996. 'The Encounter with the Bruttii' in Caratelli 1996, 559-562.
- Guzzo, P.G. 1993. 'L'armamento in Lucania fra IV e III sec.', *Armi*. 157-171.
- Guzzo, P.G. 1984. 'Lucanians, Bruttians and Italiote Greeks' in T. Hackens and R.R. Holloway eds. *Crossroads of the Mediterranean*, Archaeologia Transatlantica: Providence.
- Guzzo, P.G. 1981. 'Su una corazza dalla <<Magna Graecia>>', *Museum Helveticum* 38: 55-61.
- Hagemann, A. 1919. *Griechische Panzerung*, Berlin.
- Hannah, P. and Hannah, R. 1990. 'Athens - Sicily - Campania: Warriors and Painters' in *Greek Colonists and Natives*. 267-279.
- Harris, W.V. 1979. *War and Imperialism in Republican Rome 327-70 BC*. Oxford.
- Head, D. 1982. *Armies of the Macedonian and Punic Wars 359-146 BC*, Wolting.
- Heres, G. 1980. 'Samnitische Bronzegürtel der Berliner Antiken-Sammlung', *Eirene*, 17: 77-88.
- Hermann Historica Munchen. 2003. *Eisenobjekte und ausgesuchte Antiken der Sammlung Axel Guttman Berlin*. Munich.
- Herring, E., Whitehouse, R., and Wilkins, J. (eds). 1991 *The Archaeology of Power*, Accordia Research Centre: London.
- Herring, E. 1991. 'Power Relations in Iron Age South-east Italy' in Herring et al. 1991, London. 117-33.
- Herring, E. 2000. 'To See Ourselves As Others See Us' in *The Emergence of State Identities in Italy in the 1<sup>st</sup> Millennium BC*. University of London.
- Herring, E., Whitehouse, R., & Wilkins, J. (eds). 2000. 'Wealth, Wine and War: some Gravina tombs of the 6<sup>th</sup> and 5<sup>th</sup> centuries BC' in *Ancient Italy in its Mediterranean Setting*. London. 235-256.

- Jarva, E. 1995. *Archaologia on Archaic Greek Body Armour*, Societas Historica Finlandiae Septentrionalis: Rovaniemi.
- Johannowsky, W. 1971. 'Nouve Tombe Dipinte Campane' in *Atti XI Convegno Magna Grecia*. 375-382.
- Jones, S. 1997. *The Archaeology of Ethnicity*, London.
- Jurget, F. 1999. *Die etruskischen und italischen Bronzen sowie Gegenstände aus Eisen, Blei und Leder im Badischen Landesmuseum Karlsruhe vols. I, II*. Rome.
- Keeley, L. 1996. *War before Civilization*. Oxford.
- Kohne, E. and Ewigleben, C. (eds). 2000. *Gladiators and Caesars*, British Museum Press: London.
- Kunze, E. 1991. *Beinschienen* (Olympische Forschungen XXI). Berlin.
- Leslie, W. and Croom, A.T. 1996. 'An Experiment in Protecting Military Equipment from Rust', *Arbeia Journal*, 5: 49-54.
- Liberati, A.M. 1997. 'L'Esercito di Roma nell'eta delle Guerre Puniche', *Journal of Roman Military Equipment Studies* 8: 25-40.
- Lissarrague, F. 1989. 'The World of the Warrior', in *A City of Images*. 38-49.
- Lloyd, A. (ed). 1996. *Battle in Antiquity*, London.
- Lobell, J. 2004. 'A Warrior's Tomb', *Archaeology Magazine*. 36-39.
- Lomas, K. 1993. *Rome and the Western Greeks*, London.
- Luik, M. 2002. *Die Funde aus den römischen Lagern um Numantia im römisch-Germanischen Zentralmuseum*. Mainz.
- Lurz, F. 2002. *The Dubious Quick Kill*.
- Maluquer De Motes, J. 1974. 'La Coraza Griega de Bronce, del Museo de Granada', *Zephyrus*, 25: 321-327.
- Mangani, P. 2000. *Studi Sanniti*, Napoli.
- Morris, I. 1992. *Death-Ritual and Social Structure in Classical Antiquity*, Cambridge.
- Negri, M. 1993. 'Il Sabino di Roma. Considerazioni linguistiche' in H. Rix (ed.) *Oskisch-Umbrisch Texte und Grammatik*. Wiesbaden, 196-206.
- Nicolay, J.A.W. 2001. 'Interpreting Roman military equipment and horse gear from non-military contexts. The role of veterans' in *JberGPV*. 53-65.

- Oakley, S.P. 1985. 'Single Combat in the Roman Republic', *Classical Quarterly* 35: 392-410.
- Oakley, S.P. 1995. *The Hill-forts of the Samnites*. Archaeological Monographs of the British School at Rome no.10, London.
- Oakley, S.P. 1998. *A Commentary on Livy: Books VI-X*. Oxford.
- Otterbein, K. 1989. *The Evolution of War, A Cross-Cultural study*, New Haven.
- Paddock, J.M. 1993. *The Bronze Italian Helmet: The development of the cassis from the last quarter of the sixth century B.C. to the third quarter of the first century A.D.*, unpublished PhD thesis, Institute of Archaeology, University College London.
- Pallottino, M. 1991. *A History of Earliest Italy*, London.
- Parise-Badoni, F. and Ruggeri-Giove, M. 1980. *Alfedena: la necropoli di Campo Consolino*. Chieti.
- Pastore, G. 2001. 'The Looting of Archaeological Sites in Italy' in *Trade in illicit antiquities: the destruction of the world's archaeological heritage*. Cambridge. 155-160.
- Patterson, J.R. 1991. 'Settlement, city and elite in Samnium and Lycia' in J. Rich and A. Wallace-Hadrill (eds.). London, 146-168.
- Pellegrini, G.B. 1978. 'Toponimi ed etnici nelle lingue dell' Italia antica' in A.L. Prosdocimi (ed.), *Lingue e Dialetti dell'Italia Antica*. Rome, 81-127.
- Pontrandolfo, A., and Rouveret, A. 1992. *Le Tombe Dipinte di Paestum*. Modena.
- Pritchett, W.K. 1971-1985. *The Greek State at War*, I-IV. Berkley.
- Prohaszka, M. 1995. 'Reflections from the dead: metal finds from the Pantarello necropolis at Metaponto', *Studies in Mediterranean Archaeology*, CX.
- Rawlings, L. 1996. 'Celts, Spaniards and Samnites: Warriors in a Soldiers War' in Cornell and Rankov 1996, 81-95.
- Richardson, E. 1996. 'The Muscle Cuirass in Etruria and Southern Italy', *American Journal of Archaeology* 100: 91-120.
- Richter, G. 1915. *Greek Etruscan and Roman Bronzes in the Metropolitan Museum of Art*, New York.
- Ridder, D. 1915. *Bronzes Antiques du Louvre*, Paris.

- Rivka, M. (ed). 1991. *Urartu: A metal working center in the first millenium BCE*, Jerusalem.
- Robinson, E.G.D. 'Between Greek and Native: The Xenon Group' in *Greek Colonists and Natives*. 251-265.
- Robinson, H.R. 1969. 'Roman Body Armour in the first Century AD' in *Roman Frontier Studies*. 5-12.
- Robinson, H.R. 1975. *The Armour of Imperial Rome*. London.
- Romito, M. 2000. 'I cinturoni sannitici' in *Studi sull'Italia dei Samniti*. Rome, 192-201.
- Rutter, N.K. 1979. *Campanian Coinages: 475-380 BC*. Edinburgh.
- Sabin, P. 1996. 'The Mechanics of Battle in the Second Punic War' in Cornell and Rankov 1996, 59-79.
- Salazar, C. 2000. *The Treatment of War Wounds in Graeco-Roman Antiquity*, Leiden.
- Salmon, E.T. 1982. *The Making of Roman Italy*, London.
- Salmon, E.T. 1967. *Samnium and the Samnites*, Cambridge.
- Saulnier, C. 1983. *L'armee et la Guerre chez les Peuples Samnites (VIIe-Ive S.)*, Paris.
- Schneider-Herrmann, G. 1996. *The Samnites of the Fourth Century B.C.*, Institute of Classical Studies: London.
- Sekunda, N. 1986. *The Ancient Greeks*. Osprey Elite series, no.7. London.
- Sekunda, N. 1996. *Republican Roman Army 200-104 BC*. Osprey Men at Arms series, no.291. London.
- Sekunda, N. 1997. *Early Roman Armies*. Osprey Men at Arms series, no.283. London.
- Sekunda, N. 2000. *Greek Hoplite 480-323 BC*. Osprey Warrior series, no.27. London.
- Sekunda, N. 2000. 'Hoplite shield devices' in *Osprey Military Journal*, 2.5.
- Sestieri, P.C. 1957. 'Paestum. Tomba di guerriero Lucano' in *NSc*. 1957: 171-188.
- Sironen, T. 1987. 'The Lucanians and the Bruttians and the rural population of Magna Graecia (4th and 3rd cent. BC), with special reference to the territories of Metaponto and Croton' in *Roman Eastern Policy and other studies in Roman history*:



*proceedings of a colloquium at Tvarminne*. Eds. H. Solin and M. Kajava, Finnish Society of Sciences and Letters. Tvarminne, 143-150.

Small, A. 2000. 'The Use of Javelins in Central and South Italy in the 4<sup>th</sup> Century BC' in Herring, E., Whitehouse, R., & Wilkins, J. P. (eds.). *Ancient Italy in its Mediterranean Setting: Studies in honour of Ellen Macnamara*. London, 221-234.

Snodgrass, A. 1964. *Early Greek Armour and Weapons*, Edinburgh.

Snodgrass, A. 1999. *Arms and Armour of the Greeks*, 2<sup>nd</sup> edition, Baltimore.

Suano, M. (ed. by Lucilla Burn). 1986. *Sabellian-Samnite Bronze Belts in the British Museum*, British Museum Occasional Paper no.57.

Suano, M. 2000. 'Il cinturone sabellico-sannita come abbigliamento sociale' in *Studi sull'Italia dei Sanniti*. Rome. 183-191.

Sumner, G. 2002. *Roman Military Clothing (I)*. Osprey Men at Arms series, no.374. London.

Swaddling, J. (ed.) 1986. *Italian Iron Age Artefacts in the British Museum*, British Museum Publications: London.

Symes, R. 1971. *Ancient Art*. London.

Tagliamonte, G. 1993. 'Gancio Di Cinturone 'Sannitico' Da Morgantina', *Archeologia Classica*, XLV: 293-308.

Tagliamonte, G. 1994. *I Figli di Marte: Mobilita, Mercenari e Mercenariato Italici in Magna Grecia e Sicilia*, Roma.

Tagliamonte, G. 2000. 'I mercenari italici' in *Studi sull'Italia dei Sanniti*. Rome. 202-207.

Tasyurek, O.A. 1975. *The Urartian Belts*. Ankara.

Thomsen, R. 1946. *The Italic Regions*. Copenhagen.

Treherne, P. 1995. 'The Warrior's Beauty: the Masculine Body and Self-identity in Bronze-Age Europe', *Journal of European Archaeology*, 3: 105-144.

Trendall, A.D. 1967. *The Red-Figured Vases of Lucania, Campania and Sicily*, I-II. Oxford.

Trendall, A.D. 1970. *First Supplement to the Red-Figured Vases of Lucania, Campania and Sicily*. British Institute of Classical Studies, Suppl. 26. London.

Trendall, A.D and Cambitoglou, A.J. 1978. *The Red-Figured Vases of Apulia*. Oxford.

Trendall, A.D. 1990. 'On the Divergence of South Italian from Attic Red-figure Vase-painting' in *Greek Colonists and Native Populations*. 217-230.

Van Wees, H. 2000. 'The Development of the Hoplite Phalanx' in *War and Violence in Ancient Greece*. London

Vetter, E.V. 1953. *Handbuch der Italischen Dialekte*. Heidelberg.

Von Arnim, H. 1892. 'Ineditum Vaticanum'. *Hermes*, 27: 118-30.

Walters, H.B. 1899. *Catalogue of the Bronzes, Greek, Roman and Etruscan in the Department of Greek and Roman Antiquities*. British Museum, London.

Wheeler, E. L. 2001. 'Firepower: missile weapons and the "Face of Battle"', *Roman Military Studies*, 5: 169-184.

Weege, F. 1909. 'Oskische Grabmalerei', *Jahrbuch des Kaiserlich Deutschen Archäologischen Instituts*, 24: 99-162.

Whitehouse, R., and Wilkins, J. 1985. 'Magna Graecia Before the Greeks: Towards a Reconciliation of the Evidence' in C. Malone and S. Stoddart (eds). *Papers in Italian Archaeology IV part iii: Patterns in Protohistory*. British Archaeological Reports International series 245. Oxford, 89-109.

Whitehouse, R., and J. Wilkins. 1989. 'Greeks and Natives in South-east Italy: Approaches to the Archaeological Evidence', in T.C. Champion (ed.). *Centre and Periphery*, 102-126.

Yu, M. 1994. 'Matrix from Berlin and Samnite Belt from Rheggio Calabria: the problem of evolution of large scale metal production in the classical world' in *Bulletin of the Metals Museum*, Tokyo, 21: 1-18.

Zimmermann, J. 1979. 'Une cuirasse de Grande Grece'. *Museum Helveticum*, 36: 177-184.

Zvetaieff, J. 1878. *Sylloge Inscriptionum Oskarum Ad Archetyporum Et Librorum Fidem*. St Petersburg.

### Triple-disc cuirass components

No.	Provenance	breastplate	backplate	R. side	L. side	R. shoulder	L. shoulder
T1	Alfedena	X	X	X	X	X	X
T2	Aquila Province	X	X	X	X	X	X
T3	Southern Italy	X	X	X	X	X	X
T4	Alfedena	X	X	X	X	X	X
T5	Alfedena	X	X	No	No	No	No
T6	Marsica	X	No	No	No	No	No
T7	Southern Italy	X	No	No	No	No	No
T8	Ruvo	X	X	?	?	X	X
T9	Spoltore	X	X	X	X	X	X
T10	Manoppello	X	X	No	No	No	No
T11	Abruzzo	X	X	No	No	No	No
T12	Etruria	X	No	No	No	No	No
T13	Southern Italy	X	No	No	No	No	No
T14	Carthage	X	X	X	X	X	X
T15	Senise	X	No	X	No	No	No
T16	Ruvo	X	X	?	?	X	X
T17	Southern Italy	X	No	No	No	X	No
T18	Ruvo	X	No	No	No	No	No
T19	Southern Italy	X	X	No	No	X	X
T20	Southern Italy	X	No	No	No	No	No
T21	Paestum	X	X	X	X	No	X
T22	Paestum	X	X	No	X	No	No
T23	Paestum	X	X	X	X	No	X
T24	Paestum	X	X	X	X	X	X
T25	Paestum	X	X	No	No	No	No
T26	Paestum	X	X	X	X	No	No
T27	Puglia	X	No	X	X	X	X
T28	Southern Italy	X	X	No	No	No	No
T29	Pennapiedmonte	X	No	No	No	No	No
T30	Spoltore	X	X	No	No	No	No
T31	Southern Italy	X	No	No	No	No	No
T32	Vulci	X	No	No	No	No	No
T33	Southern Italy	X	X	No	No	X	X
T34	Southern Italy	X	No	No	No	No	No
T35	Majella	X	?	?	?	?	?
T36	Southern Italy	X	X	X	X	X	X
T37	Oratino	X	No	No	No	X	X
T38	Paestum	UNK					
T39	Paestum	UNK					
T40	Paestum	X	X	X	X	X	X
T41	Southern Italy	X	No	No	No	No	No
T42	Southern Italy	X	No	No	No	X	X
T43	Southern Italy	X	No	No	No	No	No
T44	Southern Italy	X	X	X	X	X	X
T45	Ruvo	No	No	X	X	No	No

# Triple-Disc Cuirass Table.1

No.	Present Location	Accession number	Provenance	Dimensions
T1	Alfedena	inv.1289	Alfedena	28x26.5/27.5x27
T2	Aquila	inv.67903	Aquila Province	27.5x28
T3	Rome	unknown	Southern Italy	unknown
T4	unknown	unknown	Alfedena	unknown
T5	Oxford	inv.47-409	Alfedena	27x29
T6	Prague	inv.258	Marsica	30.5x29
T7	Paris	inv.1377	Southern Italy	28long
T8	Naples	inv.2695	Ruvo	unknown
T9	Chieti	inv.35048	Spoltore	28.5x29
T10	Chieti	inv.249568	Manoppello	unknown
T11	Pescara	inv.36517	Abruzzo	28x27.5
T12	Malibu	inv.73.ac.58	Etruria	30x28
T13	Ex-Guttmann	AG135	Southern Italy	25x26.2
T14	Tunisia	unknown	Carthage	unknown
T15	Sirtide	inv.211226	Senise	16.7x10.8/10.6x6.3
T16	Naples	inv.5495	Ruvo	unknown
T17	once Bern	unknown	Southern Italy	unknown
T18	London	GR1856.12-26.665	Ruvo	27x26
T19	Ex-Guttmann	cat.79, vol.I	Southern Italy	28x27/27x27
T20	Ex-Guttmann	cat.73, vol.I	Southern Italy	28.5x28
T21	Paestum	inv.104376	Gaudo	28.2x28/28.2x28.1
T22	Paestum	inv.127919	San Venera	30x27
T23	Paestum	inv.103957	Gaudo	27.3x28
T24	Paestum	inv.104260	Gaudo	27.5x27.2
T25	Paestum	inv.1760	Porta Aurea	28.5x27.2/29x27.5
T26	Paestum	inv.104110	Gaudo	28x27
T27	Karlsruhe	F453	Puglia	32.7x29.3cm
T28	once London	unknown	Southern Italy	28x28
T29	Campoli	unknown	Pennapiedmonte	28x27.5
T30	Chieti	inv.12662	Spoltore	28x27.5
T31	Ex-Guttmann	cat.74, vol.I	Southern Italy	26.5x22
T32	Boston	inv.64.727	Vulci	32x24.5
T33	Malibu	inv.96.ac.232	Southern Italy	30.5x27.5
T34	Ex-Guttmann	AG433	Southern Italy	unknown
T35	Caramanico	unknown	Majella	unknown
T36	Mainz	RG2M	Southern Italy	31.5x32x31.7
T37	Chieti	inv.6763	Oratino	25.5high
T38	Paestum	unknown	Spinazzo	unknown
T39	Paestum	unknown	Andriuolo	unknown
T40	Paestum	no inv.	Fuscillo	27x26cm
T41	Ex-Guttmann	cat.106, vol.II	Southern Italy	26.5x25
T42	Madrid	unknown	Southern Italy	unknown
T43	Copenhagen	ABa597	Southern Italy	29x26cm



T44	Once New York	cat.24	Southern Italy	27.8x27.1
T45	Karlsruhe	F86, F87	Ruvo	7.2x20.3/7x20.3cm

## Triple-Disc Cuirass Table. 2

No.	Provenance	Context	Date	Type	Bibliography
T1	Alfedena	Tomb 169	450-400	1	Cianfarani 1969: 46-47
T2	Aquila	Unknown	450-400	1	Mangani 2000: 166-182
T3	Southern Italy	Unknown	450-400	1	Unpublished
T4	Alfedena	Unknown	450-400	1	Mangani 2000: 27
T5	Alfedena	Unknown	450-400	1	Reich 1979: 102-103
T6	Marsica	Unknown	400-300	1	Bouzek 1998: 81-83
T7	Southern Italy	Unknown	450-400	1	Ridder 1915: 5
T8	Ruvo	Unknown	450-400	1	Weege 1909: 150
T9	Spoltore	Unknown	Unknown	1	Mangani 2000: 164
T10	Manoppello	Unknown	Unknown	1	Mangani 2000: 165
T11	Abruzzo	Unknown	Unknown	1	Papi 2000: 154
T12	Etruria	Unknown	400-300		Unpublished
T13	Southern Italy	Unknown	400-300		Born 1993: 74-75
T14	Carthage	Unknown	400-300	2	Heurgon 1942: 424
T15	Senise	sporadic	400-300	2	Bianco 1996: 253-254
T16	Ruvo	Unknown	400-370	2	Hagemann 1919: 115
T17	Southern Italy	Unknown	300-290	2	Schneider-Herrmann 1996: 47-48
T18	Ruvo	Unknown	400-370	3	Connolly 1986: 117-118
T19	Southern Italy	Unknown	400-300	3	Christies 2002: 96
T20	Southern Italy	Unknown	400-300	3	Christies 2002: 90
T21	Gaudo	Tomb 197	380-370	3	Cipriani and Longo 1996: 152-156
T22	San Venera	Tomb 110	400-300	3	Pontrandolfo 1992: 368-369
T23	Gaudo	Tomb 136	420-400		Cipriani and Longo 1996: 147-148
T24	Gaudo	Tomb 174	390-380		Cipriani and Longo 1996: 149-152
T25	Porta Aurea	Tomb 2	380-370		Pontrandolfo 1992: 363-364
T26	Gaudo	Tomb 164	380-370		Cipriani and Longo 1996: 155-158
T27	Puglia	Unknown	350-300		Jurgeit 1999: 104-106
T28	Southern Italy	Unknown	400-300	4	Schneider-Herrmann 1996: 46-47
T29	Pennapiedmonte	T.13	350-300	4	D'Ercole 1990: 57-59
T30	Spoltore	Tomb of the warrior	350-300	4	Mangani 2000: 163
T31	Unknown	Unknown	400-300	4	Christies 2002: 91
T32	Vulci	Unknown	400-300	4	Comstock and Vermuele 1971:408
T33	Southern Italy	Unknown	400-300	5	Getty Museum 1994: 354
T34	Southern Italy	Unknown	400-300	5	Born 1993: 74-75
T35	Majella	Unknown	400-300	4	Abruzzo tourism brochure 2001
T36	Southern Italy	Unknown	400-300		Unpublished
T37	Oratino	Unknown	400-300	unk	Capini 1991: 60-61
T38	Spinazzo	Unknown	400-300		Bottini 1993: 172-174
T39	Andriuolo	Tomb 112	400-390		Bottini 1993: 172-174
T40	Fusillo	Warrior tomb	310-300	5	Sestieri 1957: 171-180
T41	Southern Italy	Unknown	400-300		Christies 2004: 83
T42	Southern Italy	Unknown	Unknown		Unpublished
T43	Southern Italy	Unknown	400-300		Unpublished

T44	Southern Italy	Unknown	400-300	1	Fortuna F.A. 2003: 24
T45	Ruvo	Unknown	330-320	2	Jurgeit 1999: 106-108

**Greek-style Muscle Cuirass**  
**Table. 1**

No.	Present Location	Accession Number	Provenance	Dimensions
GC1	Taranto	inv.73003-73004	Ginosa	22cm high fragment
GC2	Taranto	inv.61485	Canosa	51.5x37cm
GC3	Florence	inv.cc485-486	Southern Italy	44x38cm
GC4	Potenza	Unknown	S. Giorgio Lucano	46.5x31.2cm
GC5	Naples	inv.5725-5726	Canosa	45x34cm
GC6	Leiden	Unknown	Southern Italy	42x36cm
GC7	Bari	inv.20893-4	Conversano	51/58cm
GC8	Bari	inv.334861	Lavello	52x42.7/54.5x42.7cm
GC9	Bari	inv.6075	Canosa	53x35.5cm
GC10	Worcester, MA	HAM1132.1.2	Southern Italy	Unknown
GC11	New York	inv.1992.180.3a	Apulia	50x34cm
GC12	Malibu, Getty	inv.80.ac.12	Southern Italy	53.5cm
GC13	Hamburg	inv.1910.448	Apulia	Unknown
GC14	London	GR1873.8-20.223	Ruvo	35cm
GC15	London	GR1842.7-28.712	Southern Italy	52cm
GC16	London	GR1856.12-26.61	Ruvo	61x40cm
GC17	Once Basel	cat.10	Southern Italy	36.8x36.2/35.5x35cm
GC18	Royal Athena, N.Y.	CPD01	Southern Italy	44x34cm
GC19	Milan	no inv.	Apulia	53x36cm
GC20	Ex-Guttmann	cat.80, vol.I	Southern Italy	42x33cm
GC21	Ex-Guttmann	cat.102, vol.II	Southern Italy	38.7x34/39x33cm
GC22	Ex-Guttmann	cat.92, vol.II	Southern Italy	52x33/37.5x33cm
GC23	Ex-Guttmann	cat.114, Munich	Southern Italy	45/44.5cm
GC24	Palermo	Unknown	Sicily	Unknown
GC25	Basel	inv.Ka223	Metaponto	Fragments
GC26	Paris	Unknown	Basilicata	Unknown
GC27	Lyon	Unknown	Ruvo	Unknown
GC28	Swiss private coll.	no inv.	Magna Graecia	50.4x35cm
GC29	Rome	Unknown	Lanuvium	Unknown



**Greek-style Muscle Cuirass**  
**Table. 2**

No.	Provenance	Context	Date	Type	Bibliography
GC1	Ginosa	Tomb 13.I.1935	480-450	S	<i>Taranto</i> I,3 1994: 332-334
GC2	Canosa	Tomb 11.X.1935	400-350	L	<i>Taranto</i> I,3 1994: 340-1
GC3	Southern Italy	Unknown	350-300	S	Caratelli 1996: 653
GC4	S. Giorgio Lucano	Unknown	350-300	L	Bottini 1993: 221-223
GC5	Canosa	Unknown	350-325	L	Boriello and De Caro 1996: 142
GC6	Southern Italy	Unknown	400-300	S	Unpublished
GC7	Conversano	Tomb 10	325-300	L	Cipriani and Longo 1996: 132-133
GC8	Lavello	Tomb 669II	330-300	L	Bottini and Fresa 1991: 58-61
GC9	Canosa	Unknown	320-300	L	Caratelli 1996: 739
GC10	Southern Italy	Unknown	400-300	Unk	Grancsay 1961: 21
GC11	Apulia	Unknown	400-300	L	Unpublished
GC12	Southern Italy	Unknown	325-300	L	Zimmermann 1977
GC13	Apulia	Unknown	350-300	L	Zimmermann 1979: 178
GC14	Ruvo	Unknown	350-300	S	Comstock and Vermeule 1971: 94
GC15	Southern Italy	Unknown	350-300	L	Comstock and Vermeule 1971: 94
GC16	Ruvo	Unknown	400-300	L	Robinson 1975: 147
GC17	Southern Italy	Unknown	420-380	S	Cahn 1999: 8-9
GC18	Southern Italy	Unknown	400-300	S	Unpublished
GC19	Apulia	Unknown	400-300	L	Caratelli 1987: 243
GC20	Southern Italy	Unknown	450-350	S	<i>Christies</i> 2002: 97
GC21	Southern Italy	Unknown	400-300	S	<i>Christies</i> 2004: 98
GC22	Southern Italy	Unknown	350-325	L	<i>Christies</i> 2004: 84-84
GC23	Southern Italy	Unknown	400-300	S	Herrmann <i>Historica</i> 2003: 126-7
GC24	Sicily	Unknown	350-400	L	Unknown
GC25	Metaponto	Unknown	400-300	Unk	Tagliamonte 1991: 289
GC26	Basilicata	Unknown	400-300	S	Bottini 1993: 172-173
GC27	Ruvo	Unknown	400-300	L	Adam 1984: 158-161
GC28	Magna Graecia	Unknown	330-300	L	Zimmerman 1979: 177-184
GC29	Lanuvium	Warrior tomb	500-450	L	Guerrieri 2003: 27

**Italic Anatomical Cuirasses**  
**Table 1.**

No.	Present Location	Accession Number	Provenance	Dimensions
IC1	Leeds	inv. II.197	Cumae	30x25/31x27.5cm
IC2	Les Arcs	Unknown	Southern Italy	31x21.5cm
IC3	Peter Connolly's photos	Unknown	Southern Italy	Unknown
IC4	Once London	Unknown	Southern Italy	Unknown
IC5	Eboli	inv.133158	Eboli	37x27.6/30x27.5cm
IC6	Eboli	inv.134611	Eboli	35x29.5cm
IC7	Newcastle	inv.565	Southern Italy	30.5x30/30x27.5cm
IC8	Private collection	no inv.	Magna Graecia	Unknown
IC9	London	GR1902.4-28.2	Southern Italy	29.7x28/30x29cm
IC10	Taranto	inv.61457	Ruvo	28x29.5cm
IC11	Pescara	Unknown	Spoltore	31x30.5cm
IC12	Once New York	cat.6	Southern Italy	29.8x28.6cm
IC13	Mainz	Unknown	Southern Italy	31.5x27.9cm
IC14	Ex-Guttman	cat.107, vol.II	Southern Italy	34x35/35x35cm
IC15	Paestum	inv.4815	Paestum	30x28/32x28cm
IC16	London, B.M.	GR1772.3-3.140	Southern Italy	Unknown
IC17	Naples	inv.5702-5703	Paestum	38x33/39x34.5cm
IC18	Naples	inv.5710	Paestum	40x36cm
IC19	Syracuse	inv.42858-42859	Scordia	32.5x30cm
IC20	Paris	inv.4479-4480	Ruvo	34.6x38/29x30cm
IC21	New York	inv.08.2.6	Campobasso	35.2x30cm
IC22	Reggio Calabria	inv.11803-11804	Laos	34x27/37.5x29cm

**Italic Anatomical Cuirasses**  
**Table. 2**

No.	Provenance	Context	Date	Type	Bibliography
IC1	Cumae	Unknown	400-300	1	Connolly 1981: 109
IC2	Southern Italy	Unknown	400-300	1	<i>Peuples Italiques</i> 1993: 367
IC3	Unknown	Unknown	Unknown	1	Unknown
IC4	Southern Italy	Unknown	400-300	1	Unknown
IC5	Eboli	Tomb 40	340-330	1	Carratelli 1996: 648-9
IC6	Eboli	Tomb 37	340-330	1	Cipriani and Longo 1996: 80-81
IC7	Southern Italy	Unknown	400-300	1	Foster 1978: 10-11
IC8	Magna Graecia	Unknown	400-300	1	Symes 1971: 30
IC9	Southern Italy	Unknown	375-325	1	Connolly 1986: 117-118
IC10	Ruvo	Tomb 1	340-330	1	<i>Taranto</i> 1,3 1994: 341-343
IC11	Spoltore	Unknown	400-300	1	Mangani 2000: 165
IC12	Southern Italy	Unknown	400-300	1	Hesperia N.Y. 1990
IC13	Southern Italy	Unknown	400-300	1	Unpublished
IC14	Southern Italy	Unknown	400-300	2	<i>Christies</i> 2004: 101
IC15	Gaudio	Tomb 2/1957	360-350	3	Pontrandolfo 1993: 381-2
IC16	Southern Italy	Unknown	Unknown	4	Connolly 1986: 117-118
IC17	Paestum	Tomb 2 Porta Aurea	350-300	5	Boriello and De Caro 1996: 26-27
IC18	Paestum	Tomb 2 Porta Aurea	350-300	5	Boriello and De Caro 1996: 26-27
IC19	Scordia	Warrior tomb	325-300	5	Tagliamonte 1994: 291
IC20	Ruvo	Unknown	350-300	5	Ridder 1915: 5
IC21	Campobasso	Unknown	400-300	5	Richter 1915: 422-3
IC22	Laos	Room tomb	330-320	6	Greco and Guzzo 1992: 30-31

**Greaves Table. 1**

No.	Present Location	Accession No.	Provenance	Dimensions
G1	Leeds	IL.197	Cumae	40.1rt/41lt
G2	Melfi	Unknown	Lavello	Unknown
G3	Bari	inv.334863	Lavello	41x16
G4	Paestum	inv.104110	Gaudo	44rt/42lt
G5	Paestum	inv.104258	Gaudo	34.8rt/34lt
G6	Paestum	inv.4812-13	Gaudo	42.5rt/42.1lt
G7	Naples	inv.5733-34	Paestum	45.5rt/46.5lt
G8	Naples	inv.5727-28	Paestum	43.5rt/43lt
G9	Naples	inv.5713	Ruvo	40lt
G10	Taranto	inv.61486-87	Canosa	36rt/37lt
G11	Taranto	inv.73005-06	Ginosa	43.5rt/43lt
G12	Reggio Calabria	inv.11806-7	Laos	45rt/46lt
G13	Eboli	inv.134612	S. Croce	43.7x13.5
G14	Leiden	Unknown	Southern Italy	42rt/41lt
G15	Potenza	inv.96680-81	Braida di Vaglio	40x18
G16	Rome	Unknown	Banzi	Unknown
G17	Chieti	inv.5868	Campovalano	47.5rt/47.5lt
G18	Capua Vetere	Unknown	Pietrabbondante	Unknown
G19	Potenza	Unknown	S. Giorgio Lucano	Unknown
G20	London	GR1856.12-26.615	Apulia	
G21	London	GR1856.12-26.710	Ruvo	
G22	London	GR1881.7-25.3-4	Southern Italy	34cm
G23	Newcastle	Unknown	Central Italy	41.1lt
G24	Ex-Guttman	cat.80, vol.I	Southern Italy	42.5rt/42.1lt
G25	Ex-Guttman	Mun. cat.114	Southern Italy	46.5rt/46.3lt
G26	Copenhagen	ABa600	Naples	39.5rt/39.8lt
G27	Once New York	Unknown	Southern Italy	33rt/33lt
G28	Bari	inv.20891-2	Conversano	41.5/41.5
G29	Karlsruhe	F443-444	Southern Italy	45.3/
G30	Ex-Guttman	cat.67, vol.I	Southern Italy	41.4rt/41.5lt
G31	Chieti	inv.5269	Villamagna	46rt/46lt
G32	Torino	inv.4431-32	Herculaneum	Unknown
G33	Matera?	inv.9732	Montescaglioso	Unknown
G34	Paris, Louvre	inv.1163	Southern Italy	Unknown
G35	Taranto	inv.213870	Montedoro	33.4x13.5
G36	Naples	inv.5705	Paestum	42frag
G37	Ex-Guttman	cat.54, vol.I	Southern Italy	47rt/47lt
G38	Unknown	inv.32150	Roccaspide	17cm high fragment
G39	Ex-Guttman	Cat. 62, vol.II	Southern Italy	38.7cm
G40	Ex-Guttman	Cat.75, vol.II	Southern Italy	42/42cm
G41	Ex-Guttman	Cat.88, vol.II	Southern Italy	43.2/43cm
G42	Ex-Guttman	Cat.107, vol.II	Southern Italy	41.3/41.3cm
G43	Metaponto	inv.310816-7	Pisticci	26cm fragments
G44	Zurich	inv.L125a-b	Southern Italy	41cm



Greave Table. 2

No.	Provenance	Context	Date	Type	Bibliography
G1	Cumae	Unknown	400-300	4	<i>Illustrated London News</i> 2 April, 1853
G2	Lavello	Tomb 769	Unknown	unk	Bottini and Fresa 1991: 54-56
G3	Lavello	Tomb 669II	350-300	5	Bottini and Fresa 1991: 51-52
G4	Gaudio	Tomb 164	380-370	5	Cipriani and Longo 1996: 155-157
G5	Gaudio	Tomb 174	390-380	4	Cipriani and Longo 1996: 149-151
G6	Gaudio	Tomb 2/1957	360-350	5	Pontrandolfo 1992: 381-383
G7	Paestum	Tomb 2 Porta Aurea	350-320	5	Boriello and De Caro 1996: 26-27
G8	Paestum	Tomb 2 Porta Aurea	350-320	5	Boriello and De Caro 1996: 26-27
G9	Ruvo	Unknown	480-400	4	Boriello and De Caro 1996: 126
G10	Canosa	Tomb 11.X.1935	400-300	5	<i>Taranto</i> 1,3 1994: 340-342
G11	Ginosa	Tomb 13.I.1935	450-400	4	<i>Taranto</i> 1,3 1994: 340-342
G12	Laos	Room Tomb	330-320	5	Greco and Guzzo 1992: 54
G13	Eboli	Tomb 37	340-330	6	Cipriani and Longo 1996: 80-81
G14	Southern Italy	Unknown	400-300	5	Unpublished
G15	Braida di Vaglio	Tomb 107	500-480	4	<i>Genti</i> 2001: 68, 77
G16	Banzi	Tomb 491	600-575	unk	<i>Genti</i> 2001: 69
G17	Campovalano	Tomb 97	600-500	3	Mangiani 2000: 143-158
G18	Pietrabbondante	Sanctuary	400-300	6	Capelli 2000: 43
G19	S. Giorgio Lucano	Unknown	600-500	3	
G20	Apulia	Unknown	550-500	4	Comstock and Vermuelle 1971
G21	Ruvo	Unknown	400-300	6	Comstock and Vermuelle 1971
G22	Southern Italy	Unknown	500-450	3	Comstock and Vermuelle 1971
G23	Central Italy	Unknown	500-400	5	Foster 1978: 12
G24	Southern Italy	Unknown	400-300	5	<i>Christies</i> 2002: 97
G25	Southern Italy	Unknown	500-400	5	Herrmann <i>Historica</i> 2003: 101-102
G26	Naples	Unknown	530-480	5	Jarva 1995: 99
G27	Southern Italy	Unknown	500-400	1	Unpublished
G28	Conversano	Tomb 10	325-300	5	Cipriani and Longo 1996: 132-133
G29	Southern Italy	Unknown	550-500	4	Jurgeit 1999: 145
G30	Southern Italy	Unknown	400-300	5	<i>Christies</i> 2002: 83
G31	Villamagna	Tomb of the warrior	450-425	3	<i>Sacro e Natura</i> 1997: 27
G32	Herculaneum	Unknown	Unknown	6	<i>Arma</i> 2002: 99-101
G33	Montescaglioso	Unknown	600-580	3	
G34	Southern Italy	Unknown	550-500	3	Jarva 1995: 93
G35	Montedoro	Unknown	600-500	1	<i>Taranto</i> 1,3 1994: 345
G36	Paestum	Unknown	400-300	5	Boriello and De Caro 1996: 27
G37	Southern Italy	Unknown	450-350	5	<i>Christies</i> 2002: 65
G38	Roccaspide	Tomb 3	360-350	4	Cipriani and Longo 1996: 196
G39	Southern Italy	Unknown	600-500	4	<i>Christies</i> 2004: 60-61
G40	Southern Italy	Unknown	600-500	4	<i>Christies</i> 2004: 70-71
G41	Southern Italy	Unknown	450-350	3	<i>Christies</i> 2004: 80-81
G42	Southern Italy	Unknown	400-300	4	<i>Christies</i> 2004: 101
G43	Pisticci	Tomb 11	450-400	4	Bottini 1993: 136
G44	Southern Italy	Unknown	400-300	5	Schneider-Herrmann 1996: 62-63

**Italic Leg Guards**  
**Table. 1**

No.	Present Location	Accession No.	Provenance	Dimensions
L1	Leeds	II.197	Cumae	27x16cm
L2	London	GR1856.12-26.711	Ruvo	21.5x13cm
L3	Ex-Guttman	Cat.74, vol.I	Southern Italy	24.7x15/24.5x15cm
L4	Ex-Guttman	AG318	Southern Italy	28x15cm
L5	Ex-Guttman	Cat.69, vol.I	Southern Italy	24.7x15
L6	Ex-Guttman	Cat.73, vol.I	Southern Italy	24.2x14cm
L7	Vienna	VI4997a	Southern Italy	26.7/24.8cm
L8	Taranto	Unkown	Rutigliano	Unkown
L9	Taranto	Unkown	Rutigliano	Unkown
L10	Melfi	Unkown	Lavello	Unkown
L11	Bari	inv.334862	Lavello	24.8x13/26.7x13cm
L12	Melfi	Unkown	Lavello	Unkown
L13	Bari	inv.332023	Lavello	24x13/24.4x12.7cm
L14	Karlsruhe	F441-442	Apulia	23x11.9/26.3x12.4cm
L15	Switzerland Priv. Coll.	Unkown	Apulia	28.3/27.9
L16	Switzerland Priv. Coll.	Unkown	Apulia	16.4/16.8
L17	Bari	coll.283	Southern Italy	27/27cm
L18	Geneva	Unkown	Southern Italy	Unkown
L19	Paris, Biblioteque Nat.	inv.2037-2038	Apulia	26.7/27cm
L20	Malibu	92.AC.7.2-3	Southern Italy	27x12.5
L21	New York	1982.11.5-6	Apulia	22.8/23.2
L22	New York	1975.11.1-2	Southern Italy	23.2/23.2
L23	Torino	A'30-31	Friuli	Unkown
L24	Torino	A'32-33	Ortona	Unkown
L25	Peters pics	F447	Unkown	Unkown
L26	Gravina	Unkown	Gravina	Unkown
L27	Gravina	Unkown	Gravina	Unkown
L28	Royal Athena N.Y.	HAL11	Apulia	27x13cm
L29	Royal Athena N.Y.	CBD04	Southern Italy	24.1/24.3cm
L30	Melfi	inv.341845	Banzi	27x15cm
L31	Amsterdam	inv.8787	Unkown	21.0/21.0cm
L32	Berlin	Unkown	Veneto	Unkown
L33	Copenhagen	ABal17, ABal18	Southern Italy	19.5/21.8cm
L34	Melfi	Unkown	Chiuchiarì	Unkown
L35	Ex-Guttman	Cat.91, vol.II	Southern Italy	20.3x13cm

## Italic Leg Guard Table.2

No.	Provenance	Context	Date	Type	Bibliography
L1	Cumae	Unknown	400-300	L	<i>Illustrated London News</i> 1853: 2 April
L2	Ruvo	Unknown	400-300	S	Comstock and Vermuelle 1971
L3	Southern Italy	Unknown	350-300	M	<i>Christies</i> 2002: 91
L4	Southern Italy	Unknown	450-400	L	Born 1993: 148-149
L5	Southern Italy	Unknown	400-300	M	<i>Christies</i> 2002: 85
L6	Southern Italy	Unknown	400-300	S	<i>Christies</i> 2002: 90
L7	Southern Italy	Unknown	Unknown	L	Jarva 1995: 103-104
L8	Rutigliano	Tomb 24	425-400	UNK	Jarva 1995: 104
L9	Rutigliano	Tomb 11	425-400	UNK	Jarva 1995: 104
L10	Lavello	Tomb 599	425-400	UNK	Jarva 1995: 104
L11	Lavello	Tomb 669 I	400-350	L	Bottini and Fresa 1991: 51-52
L12	Lavello	Tomb 769	450-400	UNK	Jarva 1995: 103-104
L13	Lavello	Tomb 600	400-350	S	Bottini and Fresa 1991: 38-39
L14	Apulia	Unknown	450-350	L	Jurgeit 1999: 143-144
L15	Apulia	Unknown	450-400	L	Jarva 1995: 104
L16	Apulia	Unknown	500-450	S?	Jarva 1995: 104
L17	Southern Italy	Unknown	Unknown	L	Jarva 1995: 104
L18	Southern Italy	Unknown	Unknown	UNK	Jarva 1995: 104
L19	Apulia	Unknown	Unknown	L	Jarva 1995: 104
L20	Southern Italy	Unknown	400-300	L	Unpublished
L21	Apulia	Unknown	Unknown	M	Unpublished
L22	Southern Italy	Unknown	Unknown	M	Unpublished
L23	Friuli	Unknown	Unknown	S	Venturoli 2002: 103-104
L24	Ortona	Unknown	Unknown	M	Venturoli 2002: 105-106
L25	Unkown	Unknown	Unknown	M	Unknown
L26	Gravina	Tomb 10	450-350	L	Ciancio 2003: 30-35
L27	Gravina	Tomb 4	450-350	L	Ciancio 2003: 30-35
L28	Apulia	Unknown	500-450	L	Unpublished
L29	Southern Italy	Unknown	300-280	M	Unpublished
L30	Banzi	Tomb 421	400-350	L	<i>Genti</i> 2001:84-85
L31	Unkown	Unknown	Unknown	S	Jarva 1995:104
L32	Veneto	Unknown	Unknown	UNK	Unpublished
L33	Southern Italy	Unknown	Unknown	S	Unpublished
L34	Chiuchiarì	Tomb F	450-400	L	<i>Genti</i> 2001:84-85
L35	Southern Italy	Unknown	500-400	S	<i>Christies</i> 2004: 83

**Bronze Belts and Clasps Table. 1**

No.	Present Location	Accession Number	Provenance	Dimensions
B1	Royal Armouries, Leeds	IL197	Cumae	107x9cm
B2	Ashmolean, Oxford	inv.1871.99	Southern Italy	79x6.5cm
B3	Ashmolean, Oxford	inv.1890.610	Naples	10x8cm
B4	Ashmolean, Oxford	inv.1968.606	Southern Italy	30.5x7.3cm frag
B5	Ashmolean, Oxford	inv.1970.9	Southern Italy	10.5cm clasps
B6	Ashmolean, Oxford	inv.1447.1888	Southern Italy	8.5 clasps
B7	Ashmolean, Oxford	inv.1872.1163	Southern Italy	8.8cm clasp
B8	Ashmolean, Oxford	inv.681.885	Southern Italy	7x8cm belt end
B9	B.M., London	GR1856.12-26.617	Unknown	95x10.5cm
B10	B.M., London	GR1973.5-2.18-25	Unknown	10cm wide
B11	B.M., London	GR1937.11-19.1	Southern Italy	8.5cm wide
B12	B.M., London	GR1951.6-6.11	Pozzuoli	8.5cm wide
B13	B.M., London	GR1973.5-2.8	Unknown	11cm wide
B14	B.M., London	GR1973.5-2.11	Unknown	12cm wide
B15	B.M., London	GR1905.7-10.6	Unknown	11.5cm clasp
B16	B.M., London	GR1973.5-2.1	Unknown	11.4cm clasp
B17	B.M., London	GR1973.5-2.2	Unknown	9cm clasp
B18	B.M., London	GR1973.5-2.7	Unknown	11.5cm clasp
B19	B.M., London	GR1867.5-8.201	Unknown	97x9.5cm
B20	B.M., London	GR1824.4-99.4	Unknown	133x9.3cm
B21	B.M., London	GR1865.7-22.5a	Unknown	12x9.9cm
B22	B.M., London	GR1824.4-99.6	Unknown	10x7cm
B23	B.M., London	GR1824.4-99.5	Unknown	7.3x4.9cm
B24	B.M., London	GR1973.5-2.5 and 6	Unknown	10.4/10.2cm clasps
B25	B.M., London	GR1973.5-2.13/1973.5-2.3	Unknown	85x7.3cm
B26	B.M., London	GR1973.5-2.17	Unknown	8.9/9cm clasps
B27	B.M., London	GR1973.5-2.26/1973.5-2.4	Unknown	22x7cm
B28	B.M., London	GR1973.5-2.28	Unknown	23x6.8cm
B29	B.M., London	GR1973.5-2.14,15,16	Unknown	7.9x6.9cm
B30	B.M., London	GR1842.7-28.714	Naples	6.9cm clasp
B31	B.M., London	GR1973.5-2.9 and 10	Unknown	10cm clasps
B32	B.M., London	GR1856.12-26.915	Ruvo	10.2cm clasp
B33	B.M., London	GR1824.4-99.12	Unknown	98x11.4cm
B34	B.M., London	GR1824.4-99.8 and 9	Unknown	6.8x11.5cm
B35	B.M., London	GR1824.4-99.10 and 11	Unknown	6.5x12.8cm
B36	B.M., London	GR1973.5-2.12	Unknown	6.9cm clasp
B37	B.M., London	GR1954.12-19.2	Unknown	6.5cm clasp
B38	B.M., London	GR1856.12-26.733	Unknown	78x7.5cm
B39	B.M., London	GR1860.3-19.1	Unknown	8.2cm fragment
B40	B.M., London	GR1973.5-2.29	Unknown	13.3x7.3cm fragment
B41	B.M., London	GR1842.7-28.714	Naples	8.3cm clasp
B42	B.M., London	GR1954.12-19.1	Unknown	10.5cm clasps
B43	B.M., London	GR1973.5-2.30	Unknown	12.7x9cm fragment
B44	B.M., London	GR1859.2-16.158	Unknown	8.4cm clasps
B45	B.M., London	GR1824.4-98.50a and b	Unknown	6.5cm clasp
B46	B.M., London	GR1973.5-2.31	Unknown	8.3cm clasp



B47	B.M., London	GR1973.5-2.27	Unknown	7cm fragment
B48	B.M., London	GR1824.4-99.7	Unknown	25x7cm fragment
B49	B.M., London	GR184.7-28.714a and b	Naples	fragments
B50	Met. New York	inv.08.3.al	Southern Italy	11.4cm clasps
B51	Nicholson, Sydney	inv.82.30	Southern Italy	101x11cm
B52	Nicholson, Sydney	inv.unk	Southern Italy	unknown
B53	Paestum	inv.122633	Gaudo	8.5cm wide
B54	Paestum	inv.122650	Gaudo	7.5cm wide
B55	Paestum	inv.104603	Gaudo	8.5cm wide
B56	Paestum	inv.21543	Andriuolo	38x8cm fragment
B57	Paestum	inv.6130	Laghetto	15x7cm fragment
B58	Paestum	inv.6131	Laghetto	5.5x4.6cm fragment
B59	Paestum	inv.1759	Porta Aurea	9.5cm clasp
B60	Paestum	inv.1759a	Porta Aurea	9cm clasp
B61	Paestum	no inv.	S. Venera	10.2cm clasps
B62	Paestum	no inv.	S. Venera	Unknown clasps
B63	Paestum	inv.4795	Gaudo	60x9.8cm
B64	Paestum	inv.4796	Gaudo	9.5x8.7 fragment
B65	Paestum	inv.31718	Vannullo	29x9.2 fragment
B66	Paestum	inv.31719	Vannullo	43x8.7cm fragment
B67	Paestum	inv.31733	Vannullo	90x9.5cm
B68	Paestum	inv.103958	Gaudo	69x8.9cm
B69	Paestum	inv.104259	Gaudo	21x6.6 fragment
B70	Paestum	inv.104377	Gaudo	93.3x8cm
B71	Paestum	inv.104378	Gaudo	93x7.5cm
B72	Paestum	inv.104108	Gaudo	76x9.3cm
B73	Paestum	Unknown	Gaudo	unknown
B74	Paestum	inv.122672	Gaudo	10.8cm wide
B75	Paestum	Unknown	Andriuolo	unkown
B76	Paestum	Unknown	Andriuolo	unknown
B77	Paestum	Unknown	Andriuolo	unknown
B78	Paestum	Unknown	Andriuolo	unknown
B79	Paestum	Unknown	Andriuolo	unknown
B80	Paestum	Unknown	Andriuolo	unknown
B81	Paestum	Unknown	Andriuolo	unknown
B82	Paestum	Unknown	Andriuolo	unknown
B83	Paestum	Unknown	Andriuolo	unknown
B84	Paestum	Unknown	Andriuolo	unknown
B85	Paestum	Unknown	Andriuolo	unknown
B86	Paestum	Unknown	Licinella	unknown
B87	Paestum	Unknown	Licinella	unknown
B88	Paestum	Unknown	Licinella	unknown
B89	Eboli	inv.134614	Eboli	unknown
B90	Eboli	inv.134613	Eboli	97x9.8cm
B91	Eboli	Unknown	Eboli	unknown
B92	Eboli	Unknown	Eboli	unknown
B93	Aquila	inv. 61841	Alfedena	90x8cm
B94	Aquila	inv.61842 and 61843	Alfedena	11.8/11.5cm clasps
B95	Copenhagen	inv.ABa459	Southern Italy	46x6.2cm fragment
B96	Copenhagen	inv.ABa460	Southern Italy	43.6x6.9cm fragment

B97	Copenhagen	inv.ABa599	Southern Italy	55.1x11.3cm
B98	Copenhagen	inv.ABa604	Paestum	11x7.8cm fragment
B99	Melfi	inv.341871	Banzi	14.1x8.2cm fragment
B100	Bari	inv.334891	Lavello	101.5x14cm
B101	Metaponto	inv.319257	Ferrandina	45x11cm
B102	Potenza	inv.216129	Policoro	30x11cm fragment
B103	Pescara	inv.35049	Abruzzo	6cm wide fragment
B104	Castel S. Angelo, Rome	no inv.	Southern Italy	15.3 cm clasps
B105	Castel S. Angelo, Rome	no inv.	Southern Italy	11.5cm clasps
B106	Castel S. Angelo, Rome	no inv.	Southern Italy	12cm clasps
B107	Castel S. Angelo, Rome	no inv.	Southern Italy	9.5cm clasp
B108	Ex-Guttman collection	cat.69, vol.I	Southern Italy	Unknown
B109	Ex-Guttman collection	cat.73, vol.I	Southern Italy	Unknown
B110	Ex-Guttman collection	cat.76, vol.I	Southern Italy	88x7cm
B111	Ex-Guttman collection	cat.76a, vol.I	Southern Italy	99x12.2cm
B112	Ex-Guttman collection	cat.77, vol.I	Southern Italy	79x7.3cm
B113	Ex-Guttman collection	cat.77a, vol.I	Southern Italy	106x11.4cm
B114	Ex-Guttman collection	cat.91, vol.II	Southern Italy	70x7cm
B115	Pontecagnano	inv.36191	Pontecagnano	unknown
B116	Pontecagnano	Unknown	Pontecagnano	unknown
B117	Pontecagnano	no inv.	Pontecagnano	unknown
B118	Pontecagnano	no inv.	Pontecagnano	unknown
B119	Pontecagnano	no inv.	Pontecagnano	unknown
B120	Taranto	no inv.	Oria?	26.5x6.9cm
B121	Taranto	inv.198014	Basilicata	95x11.2cm
B122	Taranto	inv.73004	Ginosa	80.5x8.2
B123	Taranto	inv.61458	Ruvo	13.5cm clasps
B124	Mainz	inv.0.38885	Southern Italy	38.5x7.4cm
B125	Mainz	no inv.	Southern Italy	33.5x6.5cm
B126	Aidone	inv.58/1135	Morgantina	10.1cm clasp
B127	Naples	inv.5779	Locri	39.5x10.5cm
B128	Naples	inv.5783	Canosa	32x12cm
B129	Capua Vetere	Unknown	Termoli Difesa Grande	unknown
B130	Capua Vetere	Unknown	Capua	unknown
B131	Capua Vetere	Unknown	Carife Addolorata	unknown
B132	Capua Vetere	inv.153615	Alife	unknown
B133	Capua Vetere	Unknown	Capua	unknown
B134	Capua Vetere	Unknown	Castel Baronia	unknown
B135	Capua Vetere	Unknown	Pozzilli	unknown
B136	Capua Vetere	inv.4491	Troccola	84x5cm
B137	Capua Vetere	inv.4494	Troccola	73x6cm
B138	Capua Vetere	inv.4497	Troccola	102x8.5cm
B139	Capua Vetere	inv.4499	Troccola	8cm wide fragments
B140	Capua Vetere	inv.4134	Larino	21.4cm wide fragment
B141	Chieti	inv.23540	Alfedena	90x6.5cm
B142	Chieti	Unknown	Pennapiedimonte	unknown
B143	Chieti	inv.4699/1	Unknown	unknown
B144	Villa Giullia, Rome	no inv.	Malpasso	unknown
B145	Villa Giullia, Rome	inv.51188	Southern Italy	unknown
B146	Bari	inv.334884	Lavello	8cm

B147	Metaponto	Unknown	Pantanello	75x7.5cm
B148	Karlsruhe	inv. F456a+b	Canosa	7.5cm wide
B149	Karlsruhe	inv. F455	Puglia	7.5cm wide
B150	Karlsruhe	inv. F585	Canosa	24x7.2cm
B151	Karlsruhe	inv. F584	Southern Italy	103.5x9.7cm
B152	Karlsruhe	inv. F454	Canosa	29.1x11.2cm
B153	Karlsruhe	inv. 89/204	Southern Italy	94.5x9.3cm
B154	Karlsruhe	inv. F386	Puglia	15.4x8.3cm
B155	Karlsruhe	inv. F457	Puglia	17.2x7.4cm
B156	Karlsruhe	inv. F1306	Puglia	7.1x1.6cm clasp
B157	Karlsruhe	inv. F379	Puglia	9.7x2.6cm clasp
B158	Karlsruhe	inv. F458	Naples	9.2x2.3cm clasps
B159	Karlsruhe	inv. F376-377	Puglia	11.5/12.4cm clasps
B160	Karlsruhe	inv. F378	Puglia	12.5x3.6cm clasp
B161	Karlsruhe	inv. F1305	Puglia	11.8x3.3cm clasp
B162	Reggio Calabria	inv.11808 a-b	Laos	13x10.5cm fragment
B163	Reggio Calabria	inv.11808 d-e	Laos	16.2x7.35cm fragment
B164	Capua Vetere	Unknown	Capua	Unknown
B165	Naples	inv.4458	Pietrabbondante	11x6.5cm fragment
B166	Naples	inv.4459	Pietrabbondante	13x6cm fragment
B167	Naples	inv.4460	Pietrabbondante	12x4cm fragment
B168	Naples	inv.4461	Pietrabbondante	13x3.5cm clasp
B169	Naples	inv.4462	Pietrabbondante	13x3.5cm clasp
B170	Naples	inv.5838	Pietrabbondante	8.5x1.7cm clasp
B171	Salerno	inv.128627	Roscigno	53.6x7.7cm fragment
B172	Salerno	inv.128628	Roscigno	44x7.4cm fragment
B173	Bari	inv.332034	Lavello	83x3.7cm
B174	Bari	inv.332025	Lavello	10x8.8cm fragment
B175	Bari	inv.332028	Lavello	12.5x8.4cm fragment
B176	Bari	inv.332027	Lavello	8.1x8.8cm clasps
B177	Bari	inv.332026	Lavello	7.8x8.5cm clasps
B178	Chieti	inv.113488	Fonte S. Nicola	23x9cm fragment
B179	Pontecagnano	inv.134703	Pontecagnano	99.5x10.8cm
B180	Pontecagnano	inv.134704	Pontecagnano	72x10.8cm
B181	Chieti	inv.32148	Roccaspide	8.6cm wide fragment
B182	Lyon	inv.X,435	Southern Italy	Unknown
B183	Lyon	inv.X,435	Southern Italy	Unknown
B184	Melfi	inv.119.989	Lavello	Unknown
B185	Syracuse	inv.56674	Palike	Unknown
B186	Agrigento	inv.26827	Agrigento	Unknown
B187	Syracuse	inv.42860	Monte Casale	Unknown
B188	Prague	no inv.	Southern Italy	93x8cm
B189	Prague	KiN	Southern Italy	11.2/11.3cm long clasps
B190	Prague	KiN	Southern Italy	12.7cm long clasp
B191	Prague	NMBD K 58	Pompeii	8.6cm clasps
B192	Prague	KiN	Southern Italy	9.6cm clasp
B193	Prague	KiN	Southern Italy	4.7cm hook of clasp
B194	Berlin	Fr.1027	Southern Italy	Unknown
B195	Berlin	Fr.1037, 1038	Southern Italy	10.8cm clasps
B196	Berlin	Fr.1039, 1040	Southern Italy	10.3cm clasps

B197	Berlin	Fr.1046	Southern Italy	9.5cm clasp
B198	Berlin	Fr.1044	Southern Italy	8.2cm clasp
B199	Berlin	Fr.1041	Southern Italy	10.8cm clasp
B200	Berlin	Fr.1056	Southern Italy	12.3cm clasp
B201	Berlin	Fr.1035	Southern Italy	8.4cm clasps
B202	Berlin	Fr.1052	Southern Italy	9.4cm clasp
B203	Berlin	Fr.1064	Southern Italy	11.3cm clasp
B204	Berlin	Fr.1066, 1058	Southern Italy	8.6/8.8cm clasps
B205	Berlin	Fr.1055	Southern Italy	10.7cm clasps
B206	Berlin	Fr.1034	Southern Italy	7.5cm clasp
B207	Berlin	Fr.1029	Southern Italy	13.1cm clasp
B208	Berlin	Fr.1055a	Southern Italy	11.8cm clasp
B209	Berlin	Fr.1069	Southern Italy	8.7cm clasp
B210	Berlin	Fr.1072	Southern Italy	9.2cm clasp
B211	Berlin	Fr.1047	Southern Italy	8.6cm clasp
B212	Berlin	Fr.1067	Southern Italy	8.8cm clasp
B213	Berlin	Fr.1026	Southern Italy	9.2cm clasp
B214	Berlin	Fr.1050	Southern Italy	10.8cm clasp
B215	Berlin	Fr.1073	Southern Italy	9cm clasp
B216	Berlin	Fr.1061	Southern Italy	12.2cm clasp
B217	Berlin	Fr.1063	Southern Italy	12.2cm clasp
B218	Berlin	Fr.1053	Southern Italy	11.5cm clasp
B219	Berlin	Fr.1076	Southern Italy	12.2cm clasp
B220	Berlin	Fr.1051	Southern Italy	6.9cm clasp
B221	Chieti	inv.27038	Pennapiedimonte	99.7x10.4cm



**Bronze Belts and Clasps Table.2**

No.	Provenance	Context	Date	Type	Bibliography
B1	Cumae	Unknown	400-300	2b	Connolly 1981: 109-11
B2	Southern Italy	Unknown	Unknown	4a	Unpublished
B3	Naples	Unknown	400-300	1b	Unpublished
B4	Southern Italy	Unknown	400-300	1b	Unpublished
B5	Southern Italy	Unknown	400-300	6A	Unpublished
B6	Southern Italy	Unknown	400-300	7b	Unpublished
B7	Southern Italy	Unknown	400-300	4a	Unpublished
B8	Southern Italy	Unknown	400-300	8a	Unpublished
B9	Unknown	Unknown	390-250	1b	Suano 1986:12
B10	Unknown	Unknown	390-250	1b	Suano 1986:12
B11	Southern Italy	Unknown	390-250	1b	Suano 1986:12-13
B12	Pozzuoli	Unknown	390-250	1b	Suano 1986:13
B13	Unknown	Unknown	390-250	1b	Suano 1986:13
B14	Unknown	Unknown	400-300	1a	Suano 1986:13
B15	Unknown	Unknown	390-250	1b	Suano 1986:13
B16	Unknown	Unknown	390-250	1b	Suano 1986:14
B17	Unknown	Unknown	390-250	1b	Suano 1986:14
B18	Unknown	Unknown	390-250	1b	Suano 1986:14
B19	Unknown	Unknown	450-350	2b	Suano 1986:14
B20	Unknown	Unknown	450-350	2b	Suano 1986:14
B21	Unknown	Unknown	450-350	2b	Suano 1986:15
B22	Unknown	Unknown	450-350	2d	Suano 1986:15
B23	Unknown	Unknown	450-350	2a	Suano 1986:16
B24	Unknown	Unknown	450-350	2d	Suano 1986:16
B25	Unknown	Unknown	410-350	4b	Suano 1986:16
B26	Unknown	Unknown	410-350	4b	Suano 1986:16
B27	Unknown	Unknown	410-350	4a	Suano 1986:17
B28	Unknown	Unknown	410-310	4a	Suano 1986:17
B29	Unknown	Unknown	410-350	4b	Suano 1986:17
B30	Naples	Unknown	410-350	4b	Suano 1986:17
B31	Unknown	Unknown	410-310	4a	Suano 1986:17
B32	Ruvo	Unknown	410-350	4b	Suano 1986:18
B33	Unknown	Unknown	220-150	5b	Suano 1986:18
B34	Unknown	Unknown	220-150	5b	Suano 1986:18
B35	Unknown	Unknown	220-150	5b	Suano 1986:18-19
B36	Unknown	Unknown	320-280	5a	Suano 1986:19
B37	Unknown	Unknown	320-280	5a	Suano 1986:19
B38	Unknown	Unknown	Unknown	none	Suano 1986:19
B39	Unknown	Unknown	400-300	3,	Suano 1986:19
B40	Unknown	Unknown	400-300	none	Suano 1986:19-20
B41	Naples	Unknown	360-300	6a	Suano 1986:20
B42	Unknown	Unknown	360-300	6a	Suano 1986:20
B43	Unknown	Unknown	360-300	6a	Suano 1986:20
B44	Unknown	Unknown	320-280	6b	Suano 1986:20
B45	Unknown	Unknown	320-280	6b	Suano 1986:20
B46	Unknown	Unknown	360-300	6a	Suano 1986:20-21

B47	Unknown	Unknown	Unknown	none	Suano 1986:21
B48	Unknown	Unknown	Unknown	none	Suano 1986:21
B49	Naples	Unknown	Unknown	none	Suano 1986:21
B50	Southern Italy	Unknown	400-300	1b	Richter 1915: 425
B51	Southern Italy	Unknown	400-300	1b	Robinson 1993: 145-146
B52	Southern Italy	Unknown	400-300	8a	Robinson 1993: 145-146
B53	Gaudo	Tomb 254	420-400	2a	Cipriani 2000: 148
B54	Gaudo	Tomb 259	410-400	none	Cipriani 2000: 149
B55	Gaudo	Unknown	430-420	none	Cipriani 2000: 146
B56	Andriuolo	Tomb 51	350-325	4a	Pontrandolfo 1992: 330-331
B57	Laghetto	Tomb LXIV	370-360	4a	Pontrandolfo 1992: 355-356
B58	Laghetto	Tomb LXIV	370-360	4b	Pontrandolfo 1992: 335-356
B59	Porta Aurea	Tomb 2	380-370	4b	Pontrandolfo 1992: 363-364
B60	Porta Aurea	Tomb 2	380-370	4a	Pontrandolfo 1992: 363-364
B61	S. Venera	Tomb 110	400-390	4b	Pontrandolfo 1992: 369
B62	S. Venera	Tomb 109	400-390	4b	Pontrandolfo 1992: 370
B63	Gaudo	Tomb 2/1957	350-340	4a	Pontrandolfo 1992: 383-385
B64	Gaudo	Tomb 2/1957	350-340	2b	Pontrandolfo 1992: 383-385
B65	Vannullo	Tomb 2	360-350	2b	Pontrandolfo 1992: 395-396
B66	Vannullo	Tomb 2	360-350	2b	Pontrandolfo 1992: 395-396
B67	Vannullo	Tomb 3	350-325	1b	Pontrandolfo 1992: 398
B68	Gaudo	Tomb 136	420-400	9,	Cipriani 2000:204-205
B69	Gaudo	Tomb 174	390-380	4a	Cipriani 2000:206-208
B70	Gaudo	Tomb 197	380-370	4b	Cipriani 2000:209-210
B71	Gaudo	Tomb 197	380-370	8a	Cipriani 2000:209-210
B72	Gaudo	Tomb 164	380-370	2b	Cipriani 2000: 211-212
B73	Gaudo	Tomb 244	400-390	none	Cipriani 2000: 201
B74	Gaudo	Tomb 265	430-420	10,	Cipriani 2000: 202
B75	Andriuolo	Tomb 98	390-380	2b	Suano 1986: 25
B76	Andriuolo	Tomb 101	390-380	2b	Suano 1986: 25
B77	Andriuolo	Tomb 112	400-390	4b	Suano 1986: 25
B78	Andriuolo	Tomb 119	400-390	4b	Suano 1986: 25
B79	Andriuolo	Tomb 104	380-370	2b	Suano 1986: 26
B80	Andriuolo	Tomb 9	350-340	2b	Suano 1986: 26
B81	Andriuolo	Tomb 42	350-340	2b	Suano 1986: 26
B82	Andriuolo	Tomb 55	350-340	2b	Suano 1986: 26
B83	Andriuolo	Tomb 147	370-360	4a	Suano 1986: 26
B84	Andriuolo	Tomb 83	350-340	4b	Suano 1986: 26
B85	Andriuolo	Tomb 12	350-340	8a	Suano 1986: 26
B86	Licinella	Tomb 35	370-360	2b	Suano 1986: 26
B87	Licinella	Tomb 14	320-310	1b	Suano 1986: 26
B88	Licinella	Tomb 5	320-310	5d	Suano 1986: 26
B89	Eboli	Tomb 37 S. Croce	340-330	1b	Cipriani and Longo 1996: 80-82
B90	Eboli	Tomb 37 S. Croce	340-330	4a	Cipriani and Longo 1996: 80-82
B91	Eboli	Tomb 40 S. Croce	340-330	1b	Carratelli 1996: 648-649
B92	Eboli	Tomb 40 S. Croce	340-330	6A	Carratelli 1996: 648-649
B93	Alfedena	Tomb CII zona DII	350-300	1b	Mangiani 2000: 169
B94	Alfedena	Unknown	350-300	1b	Mangiani 2000: 170
B95	Southern Italy	Unknown	400-300	none	Unpublished
B96	Southern Italy	Unknown	400-300	4b	Unpublished

B97	Southern Italy	Unknown	400-300	1b	Unpublished
B98	Paestum	Unknown	400-300	6b	Unpublished
B99	Banži	Tomb 421	400-350	unk	<i>Genti</i> 2001:87
B100	Lavello	Tomb 686	350-300	5bb	Bottini and Fresa 1991: 65
B101	Ferrandina	Sanctuary near Caporre	350-250	unk	<i>Genti</i> 2001: 91
B102	Policoro	Tomb 1188	350-300	unk	<i>Genti</i> 2001: 91
B103	Abruzzo	Unknown	400-300	8a	Papi 2000: 154
B104	Southern Italy	Unknown	400-300	1b	<i>Archeologia Violata</i> 2002: 62
B105	Southern Italy	Unknown	400-300	7a	<i>Archeologia Violata</i> 2002:62
B106	Southern Italy	Unknown	400-300	1b	<i>Archeologia Violata</i> 2002: 62
B107	Southern Italy	Unknown	400-300	4a	<i>Archeologia Violata</i> 2002: 62
B108	Southern Italy	Unknown	400-300	2a	<i>Christies</i> 2002: 85
B109	Southern Italy	Unknown	400-300	2b	<i>Christies</i> 2002: 90
B110	Southern Italy	Unknown	400-300	2b	<i>Christies</i> 2002: 94
B111	Southern Italy	Unknown	400-300	4a	<i>Christies</i> 2002: 94
B112	Southern Italy	Unknown	400-300	4a	<i>Christies</i> 2002: 94
B113	Southern Italy	Unknown	400-300	5b	<i>Christies</i> 2002: 94
B114	Southern Italy	Unknown	400-300	4b	<i>Christies</i> 2004: 83
B115	Pontecagnano	Tomb 1181	330-320	1b	Unpublished
B116	Pontecagnano	Tomb 523b	370-360	2b	Suano 1986:26
B117	Pontecagnano	Unknown	400-300	11,	Unpublished
B118	Pontecagnano	Unknown	400-300	11,	Unpublished
B119	Pontecagnano	Tomb 3208	750-650	proto	Unpublished
B120	Oria?	Unknown	600-500	unk	<i>Taranto I,3</i> 1994: 330
B121	Basilicata	Unknown	520-450	unk	<i>Taranto I,3</i> 1994: 332
B122	Ginosa	Tomb 13.I.1935	490-450	2d	<i>Taranto I,3</i> 1994: 332-335
B123	Ruvo	Tomb 1	360-300	unk	<i>Taranto I,3</i> 1994: 340-343
B124	Southern Italy	Unknown	400-300	unk	Unpublished
B125	Southern Italy	Unknown	350-300	2a	Unpublished
B126	Morgantina	Unknown	350-300	6a	Tagliamonte 1994: 293-308
B127	Locri	Unknown	350-300	unk	Boriello and De Caro 1996: 94
B128	Canosa	Unknown	350-325	none	Boriello and De Caro 1996: 150
B129	Termoli Difesa Grande	Tomb 8	350-280	?	??
B130	Capua	Tomb 16 S. Prisco	350-300	1b	??
B131	Carife Addolorata	Tomb 21	350-280	5b	??
b132	Alife	Tomb 7	400-300	?	??
b133	Capua	Tomb 3 S. Prisco	340-330	?	??
b134	Castel Baronia	Tomb 58 Serra di Marco	420-350	7a	??
b135	Pozzilli	Tomb 103 Camerelle	350-300	?	??
b136	Troccola	Tomb 1	500-450	unk	Cianfarani 1980: 132-134
b137	Troccola	Tomb 2	320-280	2b	Cianfarani 1980: 135
b138	Troccola	Tomb 3	350-300	4a	Cianfarani 1980: 136-137
b139	Troccola	Tomb 3	350-300	unk	Cianfarani 1980: 136-137
b140	Larino	House	330-280	5a	Cianfarani 1980: 311
b141	Alfedena	Tomb 117	??	8a	??
b142	Pennapiedimonte	Tomb 13	??	7,	??
b143	Unknown	Unknown	400-300	?	??
b144	Malpasso	Tomb XII, Gualdo Tadino	400-300	4b	??
b145	Southern Italy	Unknown	400-300	4b	??
b146	Lavello	Tomb 669I	400-350	8c	Bottini and Fresa 1991: 51-52



b147	Pantanello	Tomb 106	420-400	4c	Prohaska 1983: 25
b148	Canosa	Unknown	400-350	4a	Jurgeit 1999: 108-109
b149	Puglia	Unknown	400-350	4c	Jurgeit 1999: 109-110
b150	Canosa	Unknown	320-280	5bb	Jurgeit 1999: 110-111
b151	Southern Italy	Unknown	330-300	5d	Jurgeit 1999: 111-112
b152	Canosa	Unknown	350-300	none	Jurgeit 1999: 112-113
b153	Southern Italy	Unknown	400-300	none	Jurgeit 1999: 113-114
b154	Puglia	Unknown	400-350	2b	Jurgeit 1999: 116
b155	Puglia	Unknown	400-350	4b	Jurgeit 1999: 115-116
b156	Puglia	Unknown	400-300	4a	Jurgeit 1999: 109
b157	Puglia	Unknown	400-300	4a	Jurgeit 1999: 109
b158	Naples	Unknown	400-300	6b	Jurgeit 1999: 114-115
b159	Puglia	Unknown	350-300	1b	Jurgeit 1999: 117-118
b160	Puglia	Unknown	350-300	1b	Jurgeit 1999: 117-118
b161	Puglia	Unknown	350-300	1b	Jurgeit 1999: 117-118
b162	Laos	Room Tomb, Marcellina	330-320	unk	Guzzo 1992: 22-53
b163	Laos	Room Tomb, Marcellina	330-320	4b	Guzzo 1992: 22-53
b164	Capua	Tomb 8 S. Prisco	350-300	unk	Unpublished
b165	Pietrabbondante	Sanctuary	400-300	8a	Cianfarani 1980: 151
b166	Pietrabbondante	Sanctuary	350-300	1b	Cianfarani 1980: 151
b167	Pietrabbondante	Sanctuary	350-300	1b	Cianfarani 1980: 151-152
b168	Pietrabbondante	Sanctuary	350-300	1b	Cianfarani 1980: 152
b169	Pietrabbondante	Sanctuary	350-300	1b	Cianfarani 1980: 152
b170	Pietrabbondante	Sanctuary	350-300	6a	Cianfarani 1980: 152
b171	Roscigno	Tomb 3200	350-300	1b	Cipriani and Longo 1996: 100-101
b172	Roscigno	Tomb 3200	350-300	1b	Cipriani and Longo 1996: 100-101
b173	Lavello	Tomb 600	400-350	unk	Bottini and Fresa 1991: 38-39
b174	Lavello	Tomb 600	400-350	2e	Bottini and Fresa 1991: 38-39
b175	Lavello	Tomb 600	400-350	2c	Bottini and Fresa 1991: 38-39
b176	Lavello	Tomb 600	400-350	2ff	Bottini and Fresa 1991: 38-39
b177	Lavello	Tomb 600	400-350	2f	Bottini and Fresa 1991: 38-39
b178	Fonte S. Nicola	Sanctuary	320-280	5b	<i>Sacro e Natura</i> 1997: 115
b179	Pontecagnano	Tomb 6214	370-340	1a	Cipriani and Longo 1996: 75
b180	Pontecagnano	Tomb 6214	370-340	1a	Cipriani and Longo 1996: 75
b181	Roccaspide	Tomb 3	360-350	4a	Cipriani and Longo 1996: 196
b182	Southern Italy	Unknown	400-300	4a	Tagliamonte 1993: 290
b183	Southern Italy	Unknown	400-300	unk	Tagliamonte 1993: 290
b184	Lavello	Tomb 505	400-300	4a	Tagliamonte 1993: 291
b185	Palike	Unknown	350-300	4a	Tagliamonte 1993: 290
b186	Agrigento	Unknown	320-280	5bb	Tagliamonte 1993: 290
b187	Monte Casale	Tomb of the warrior	350-300	4b	Tagliamonte 1993: 290, tav.XI
b188	Southern Italy	Unknown	320-280	4b	Bouzek 1980: 65-67
b189	Southern Italy	Unknown	400-300	6a	Bouzek 1973: 93-96
b190	Southern Italy	Unknown	400-300	6a	Bouzek 1973: 93-96
b191	Pompeii	Unknown	400-300	4a	Bouzek 1973: 93-96
b192	Southern Italy	Unknown	400-300	4b	Bouzek 1973: 93-96
b193	Southern Italy	Unknown	400-300	unk	Bouzek 1973: 93-96
b194	Southern Italy	Unknown	400-300	2b	Heres 1980: 77-88
b195	Southern Italy	Unknown	400-300	6b	Heres 1980: 77-88
b196	Southern Italy	Unknown	400-300	6b	Heres 1980: 77-88



b197	Southern Italy	Unknown	400-300	6a	Heres 1980: 77-88
b198	Southern Italy	Unknown	400-300	6a	Heres 1980: 77-88
b199	Southern Italy	Unknown	400-300	7b	Heres 1980: 77-88
b200	Southern Italy	Unknown	400-300	none	Heres 1980: 77-88
b201	Southern Italy	Unknown	400-300	7a	Heres 1980: 77-88
b202	Southern Italy	Unknown	400-300	4a	Heres 1980: 77-88
b203	Southern Italy	Unknown	400-300	4a	Heres 1980: 77-88
b204	Southern Italy	Unknown	400-300	4a	Heres 1980: 77-88
b205	Southern Italy	Unknown	400-300	4a	Heres 1980: 77-88
b206	Southern Italy	Unknown	400-300	4a	Heres 1980: 77-88
b207	Southern Italy	Unknown	400-300	5b	Heres 1980: 77-88
b208	Southern Italy	Unknown	400-300	5bb	Heres 1980: 77-88
b209	Southern Italy	Unknown	400-300	4b	Heres 1980: 77-88
b210	Southern Italy	Unknown	400-300	4b	Heres 1980: 77-88
b211	Southern Italy	Unknown	400-300	4b	Heres 1980: 77-88
b212	Southern Italy	Unknown	400-300	4a	Heres 1980: 77-88
b213	Southern Italy	Unknown	400-300	2ff	Heres 1980: 77-88
b214	Southern Italy	Unknown	400-300	2b	Heres 1980: 77-88
b215	Southern Italy	Unknown	400-300	2f	Heres 1980: 77-88
b216	Southern Italy	Unknown	400-300	1b	Heres 1980: 77-88
b217	Southern Italy	Unknown	400-300	1b	Heres 1980: 77-88
b218	Southern Italy	Unknown	400-300	1b	Heres 1980: 77-88
b219	Southern Italy	Unknown	400-300	1b	Heres 1980: 77-88
b220	Southern Italy	Unknown	400-300	8a	Heres 1980: 77-88
b221	Pennapiedimonte	Tomb 11	400-300	1b	Campanelli, Faustoferri 1997: 26

**Shields and Components**  
**Table. 1**

No.	Present Location	Accession number	Provenance	Dimensions	Type
S1	Bari	inv.50398-9	Melfi	60cm diameter	Blazon (B)
S2	Swiss Collection	Unknown	Southern Italy	44.5cm long	Blazon (B)
S3	Taranto	inv.61464	Ruvo	48.5x32.5cm	Blazon (B)
S4	Potenza	inv.216092	Chiaromonte	84.4cm diam.	Aspis (A)
S5	Potenza	inv.216208	Chiaromonte	80cmx5.5cm	Porpax (P)
S6	Potenza	inv.344198	Banzi	80x5.5cm	Porpax (P)
S7	Potenza	inv.95144	Braida di Vaglio	90cm diam	Aspis (A)
S8	Potenza	inv.95144	Braida di Vaglio	75x10.5cm	Porpax (P)
S9	Bari	inv.334859	Lavello	84cm diam	Aspis (A)
S10	Bari	inv.334859	Lavello	34cm	Porpax (P)
S11	Ex-Guttmann coll.	cat.60, vol.II	Southern Italy	88cm diam	Aspis (A)
S12	Ex-Guttmann coll.	cat.60, vol.II	Southern Italy	20x11.5cm	Porpax (P)
S13	Vibo Valentia	inv.89540	Vibo Valentia	17.3cm long	Porpax (P)
S14	Bari	inv.5554	Noicattaro	86cm diam.	Aspis (A)
S15	Potenza	inv.210584	Chiaromonte	fragments	Aspis (A)

**Shields and Components**  
**Table. 2**

No.	Provenance	Context	Date	Type	Bibliography
S1	Melfi	Tomb F	550-500	B	<i>Genti</i> 2001: 34
S2	Southern Italy	Unknown	400-300	B	<i>Peuples Italiques</i> 1993: 369
S3	Ruvo	Tomb 1	450-350	B	<i>Taranto I,3</i> 1994: 340-344
S4	Chiaromonte	Tomb 652	500-400	A	<i>Genti</i> 2001: 84
S5	Chiaromonte	Tomb 652	500-400	P	<i>Genti</i> 2001: 84
S6	Banzi	Tomb 545	500-400	P	<i>Genti</i> 2001: 85
S7	Braida di Vaglio	Tomb 101	500-400	A	Carratelli 1996: 644-645
S8	Braida di Vaglio	Tomb 101	500-400	P	Carratelli 1996: 644-645
S9	Lavello	Tomb 6691	400-350	A	<i>Forentum II</i> 1991: 51-52
S10	Lavello	Tomb 6691	400-350	P	<i>Forentum II</i> 1991: 51-52
S11	Southern Italy	Unknown	550-450	A	Christies 2004: 58-59
S12	Southern Italy	Unknown	550-450	P	Christies 2004: 58-59
S13	Vibo Valentia	Unknown	570-500	P	Carratelli 1996: 642
S14	Noicattaro	Tomb IV	570-500	A	Carratelli 1996: 688
S15	Chiaromonte	Tomb 76	550-500	A	<i>Genti</i> 2001: 85

# Javelins and Spears

## Table. 1

No.	Present Location	Accession Number	Provenance	Dimensions
JS1	Once N.Y.	HAL11	Southern Italy	39.5cm
JS2	Once N.Y.	HAL11	Southern Italy	38cm
JS3	Once N.Y.	HAL11	Southern Italy	34cm
JS4	Once N.Y.	HAL11	Southern Italy	35cm
JS5	Once N.Y.	HAL11	Southern Italy	31cm
JS6	Once N.Y.	HAL11	Southern Italy	28cm
JS7	Once N.Y.	HAL11	Southern Italy	27cm
JS8	Once N.Y.	HAL11	Southern Italy	27cm
JS9	Ex-Guttmann collection	Munich cat. No.76	Southern Italy	26cm
JS10	Ex-Guttmann collection	Munich cat. No.76	Southern Italy	28cm
JS11	Ex-Guttmann collection	Munich cat. No.76	Southern Italy	30cm
JS12	Ex-Guttmann collection	Munich cat. No.76	Southern Italy	34cm
JS13	Ex-Guttmann collection	Munich cat. No.76	Southern Italy	34cm
JS14	Ex-Guttmann collection	Munich cat. No.76	Southern Italy	36cm
JS15	Ex-Guttmann collection	Munich cat. No.76	Southern Italy	37cm
JS16	Ex-Guttmann collection	Munich cat. No.77	Southern Italy	36.2cm
JS17	Ex-Guttmann collection	Munich cat. No.77	Southern Italy	40cm
JS18	Ex-Guttmann collection	Munich cat. No.77	Southern Italy	46.7cm
JS19	Melfi	inv.119.990	Lavello	40cm
JS20	Ex-Guttmann collection	cat.69, vol.I	Southern Italy	31.1cm
JS21	Benevento	no inv.	Benevento	24cm
JS22	Pescara	inv.36704	Pescara	28cm
JS23	Pescara	inv.36705	Pescara	40cm
JS24	Capua Vetere	inv.4492	Troccola	57cm
JS25	Pontecagnano	inv.36488	Pontecagnano	35cm
JS26	Pontecagnano	inv.16317	Pontecagnano	24cm
JS27	Pontecagnano	inv.92100	Pontecagnano	31cm
JS28	Eboli	Unknown	Eboli	24cm
JS29	Eboli	Unknown	Eboli	34cm
JS30	Eboli	inv.134661	Eboli	34cm
JS31	Paestum	inv.22333	Andriuolo	37cm
JS32	Paestum	inv.21544	Andriuolo	54cm
JS33	Paestum	inv.6127	Laghetto	30cm
JS34	Paestum	inv.6129	Laghetto	27cm
JS35	Paestum	inv.1762	Porta Aurea	35cm
JS36	Paestum	no inv.	San Venera	51cm
JS37	Paestum	no inv.	San Venera	28cm
JS38	Paestum	inv.4814	Guado	45.5cm
JS39	Paestum	inv.4815	Guado	35cm
JS40	Paestum	inv.31720	Vannullo	41cm
JS41	Paestum	inv.31744	Vannullo	41cm
JS42	Paestum	inv.31731	Vannullo	40cm
JS43	Paestum	inv.104257	Guado	21cm
JS44	Paestum	inv.103959	Guado	36.5cm

JS45	Paestum	inv.104375	Guado	45.5cm
JS46	Paestum	inv.104109	Guado	42.5cm
JS47	Paestum	inv.122706	Guado	17.7cm
JS48	Paestum	inv.122711	Guado	29.4cm
JS49	Paestum	inv.122671	Guado	25cm
JS50	Bari	inv.20897	Conversano	14.7cm
JS51	Salerno	inv.128629	Roscigno	19.5cm
JS52	Potenza	inv.96662	Braida di Vaglio	30.5cm
JS53	Potenza	inv.96663	Braida di Vaglio	34cm
JS54	Potenza	inv.96664	Braida di Vaglio	31cm
JS55	Potenza	inv.96665	Braida di Vaglio	28.3cm
JS56	Potenza	inv.216093	Chiaromonte	40cm
JS57	Potenza	inv.216127	Chiaromonte	40cm
JS58	Melfi	inv.341838	Banzi	60cm
JS59	Melfi	inv.341840	Banzi	48cm
JS60	Melfi	inv.341841	Banzi	55cm
JS61	Melfi	inv.341839	Banzi	52.2cm
JS62	Pontecagnano	inv.36192	Pontecagnano	unknown
JS63	Reggio Calabria	no inv.	Laos	37.3cm
JS64	Reggio Calabria	no inv.	Laos	14.1cm
JS65	Policoro	Unknown	Chiaromonte	36cm
JS66	Metaponto	inv.26385	Metaponto	17cm
JS67	Metaponto	inv.26402	Metaponto	17.4cm
JS68	Metaponto	inv.26393	Metaponto	37cm
JS69	Metaponto	inv.301765	Metaponto	31.5cm
JS70	Metaponto	inv.301766	Metaponto	31cm
JS71	Metaponto	inv.301067	Metaponto	31cm
JS72	Metaponto	inv.301068	Metaponto	14cm
JS73	Taranto	inv.61494	Canosa	18.5cm
JS74	Taranto	inv.61495	Canosa	18.5cm
JS75	Taranto	inv.61489	Canosa	29.4cm
JS76	Taranto	inv.61490	Canosa	42.3cm
JS77	Taranto	inv.61491	Canosa	35.8cm
JS78	Taranto	inv.61374	Conversano	26.5cm
JS79	Taranto	inv.61375	Conversano	25.3cm
JS80	Taranto	inv.61376-7	Conversano	5.8cm frag.
JS81	Syracuse	inv.42865	Scordia	unknown
JS82	Pontecagnano	inv.36531	Granozio	30cm
JS83	Capua Vetere	inv. Unknown	Carife	unknown
JS84	Capua Vetere	inv. Unknown	Carife	unknown
JS85	Capua Vetere	inv.4171	Montorio dei Frentani	23.6x2.5cm
JS86	Capua Vetere	inv. Unknown	Termoli	26cm
JS87	Capua Vetere	inv. Unknown	Camerelle	24cm
JS88	Capua Vetere	inv. Unknown	San Prisco	42cm
JS89	Paestum	inv.122634	Guado	45cm
JS90	Paestum	inv.122635	Guado	12.5cm
JS91	Melfi	inv.334887	Lavello	41.5cm
JS92	Melfi	inv.334888B	Lavello	25.5cm
JS93	Melfi	inv.334888A	Lavello	29cm
JS94	Melfi	inv.334888C	Lavello	28.5cm



JS95	Melfi	inv.32152	Roccaspide	43cm
JS96	Melfi	inv.32153	Roccaspide	28cm
JS97	Capua Vetere	inv.4402	Pietrabbondante	33.2cm
JS98	Pontecagnano	Unknown	Pontecagnano	38cm
JS99	Pontecagnano	Unknown	Pontecagnano	21cm
JS100	Pontecagnano	Unknown	Pontecagnano	45cm
JS101	Bari	inv.334867	Lavello	35cm
JS102	Bari	inv.334871	Lavello	20cm
JS103	Bari	inv.334864	Lavello	34cm
JS104	Bari	inv.334901	Lavello	30.6cm
JS105	Bari	inv.334868	Lavello	45cm
JS106	Bari	inv.334865	Lavello	26.5cm
JS107	Bari	inv.334875	Lavello	34.8cm
JS108	Bari	inv.334876	Lavello	31.7cm
JS109	Bari	inv.334882	Lavello	29.5cm
JS110	Bari	inv.334899	Lavello	34.9cm
JS111	Bari	inv.334900	Lavello	26.2cm
JS112	Bari	inv.334866	Lavello	33.5cm
JS113	Bari	inv.334881	Lavello	34.3cm
JS114	Bari	inv.334869	Lavello	33.5cm
JS115	Bari	inv.334902	Lavello	13.1cm
JS116	Bari	inv.334903	Lavello	14.2cm
JS117	Bari	inv.334904	Lavello	7.5cm
JS118	Bari	inv.334912	Lavello	8.3cm

## Javelins and Spears Table. 2

No.	Provenance	Context	Date	Type	Bibliography
JS1	Southern Italy	unknown	400-300	P	Royal Athena N.Y. 2003
JS2	Southern Italy	unknown	400-300	P	Royal Athena N.Y. 2003
JS3	Southern Italy	unknown	400-300	D	Royal Athena N.Y. 2003
JS4	Southern Italy	unknown	400-300	D	Royal Athena N.Y. 2003
JS5	Southern Italy	unknown	400-300	P	Royal Athena N.Y. 2003
JS6	Southern Italy	unknown	400-300	P	Royal Athena N.Y. 2003
JS7	Southern Italy	unknown	400-300	T	Royal Athena N.Y. 2003
JS8	Southern Italy	unknown	400-300	T	Royal Athena N.Y. 2003
JS9	Southern Italy	unknown	400-300	L	Hermann Historica Cat. 2003: 76
JS10	Southern Italy	unknown	400-300	L	Hermann Historica Cat. 2003: 76
JS11	Southern Italy	unknown	400-300	L	Hermann Historica Cat. 2003: 76
JS12	Southern Italy	unknown	400-300	L	Hermann Historica Cat. 2003: 76
JS13	Southern Italy	unknown	400-300	L	Hermann Historica Cat. 2003: 76
JS14	Southern Italy	unknown	400-300	L	Hermann Historica Cat. 2003: 76
JS15	Southern Italy	unknown	400-300	L	Hermann Historica Cat. 2003: 76
JS16	Southern Italy	unknown	400-300	L	Hermann Historica Cat. 2003: 77
JS17	Southern Italy	unknown	400-300	L	Hermann Historica Cat. 2003: 77
JS18	Southern Italy	unknown	400-300	D	Hermann Historica Cat. 2003: 77
JS19	Lavello	Tomb 505	350-300	D	Tagliamonte 1997: 291
JS20	Southern Italy	unknown	400-300	T	<i>Christies</i> 2002: 85
JS21	Benevento	unknown	450-350	L	Unpublished
JS22	Pescara	unknown	400-300	P	Unpublished
JS23	Pescara	unknown	400-300	D	Unpublished
JS24	Troccola	Tomb 1	500-480	D	Cianfarani 1980: pl.38
JS25	Pontecagnano	Tomb 901	360-340	P	Unpublished
JS26	Pontecagnano	Tomb 909	340-330	T	Unpublished
JS27	Pontecagnano	Tomb 5014	380-360	D	Unpublished
JS28	Eboli	Tomb 187	500-450	L	Unpublished
JS29	Eboli	Tomb 187	500-450	L	Unpublished
JS30	Eboli	Tomb 37	340-330	L	Cipriani and Longo 1996: 80-81
JS31	Andriuolo	Tomb 90	350-330	D	Pontrandolfo and Rouveret 1992: 320
JS32	Andriuolo	Tomb 51	350-330	D	Pontrandolfo and Rouveret 1992: 330-331
JS33	Laghetto	Tomb LXIV	370-360	D	Pontrandolfo and Rouveret 1992: 355-356
JS34	Laghetto	Tomb LXIV	370-360	L	Pontrandolfo and Rouveret 1992: 355-356
JS35	Porta Aurea	Tomb 2	380-370	D	Pontrandolfo and Rouveret 1992: 364-365
JS36	San Venera	Tomb 110	400-390	P	Pontrandolfo and Rouveret 1992: 369
JS37	San Venera	Tomb 109	400-390	P	Pontrandolfo and Rouveret 1992: 370
JS38	Guado	Tomb 2/1957	350-340	D	Pontrandolfo and Rouveret 1992: 384-385
JS39	Guado	Tomb 2/1957	350-340	P	Pontrandolfo and Rouveret 1992: 384-385
JS40	Vannullo	Tomb 2	360-350	P	Pontrandolfo and Rouveret 1992: 396
JS41	Vannullo	Tomb 4	350-340	P	Pontrandolfo and Rouveret 1992: 397
JS42	Vannullo	Tomb 3	350-325	D	Pontrandolfo and Rouveret 1992: 398-399
JS43	Guado	Tomb 174	390-380	L	Cipriani and Longo 1996: 149-152
JS44	Guado	Tomb 136	420-400	D	Cipriani and Longo 1996: 147-148

JS45	Guado	Tomb 197	380-370	D	Cipriani and Longo 1996: 152-156
JS46	Guado	Tomb 164	380-370	D	Cipriani and Longo 1996: 155-158
JS47	Guado	Tomb 269	440-430	L	Cipriani and Longo 1996: 155-157
JS48	Guado	Tomb 271	430-420	D	Cipriani and Longo 1996: 148
JS49	Guado	Tomb 265	430-420	L	Cipriani and Longo 1996: 143
JS50	Conversano	Tomb 10	325-300	L	Cipriani and Longo 1996: 140
JS51	Roscigno	Tomb 3200	350-300	L	Cipriani and Longo 1996: 100-101
JS52	Braida di Vaglio	Tomb 107	500-470		<i>Genti</i> 2001: 77
JS53	Braida di Vaglio	Tomb 107	500-470		<i>Genti</i> 2001: 77
JS54	Braida di Vaglio	Tomb 107	500-470		<i>Genti</i> 2001: 77
JS55	Braida di Vaglio	Tomb 107	500-470		<i>Genti</i> 2001: 77
JS56	Chiaromonte	Tomb 652	500-470	D	<i>Genti</i> 2001: 84
JS57	Chiaromonte	Tomb 652	500-470	D	<i>Genti</i> 2001: 84
JS58	Banzi	Tomb 421	400-350	D	<i>Genti</i> 2001: 84-85
JS59	Banzi	Tomb 421	400-350	P	<i>Genti</i> 2001: 84-85
JS60	Banzi	Tomb 421	400-350	P	<i>Genti</i> 2001: 84-85
JS61	Banzi	Tomb 421	400-350	D	<i>Genti</i> 2001: 84-85
JS62	Pontecagnano	Tomb 1181	330-320		Unpublished
JS63	Laos	Room Tomb	330-320	D	Greco and Guzzo 1992: 34
JS64	Laos	Room Tomb	330-320	L	Greco and Guzzo 1992: 34
JS65	Chiaromonte	Tomb 227	420-400	P	Bottini 1993: 97
JS66	Metaponto	Tomb 17/71	500-490	T	Bottini 1993: 124-125
JS67	Metaponto	Tomb 17/71	500-490	P	Bottini 1993: 124-125
JS68	Metaponto	Tomb 17/71	500-490	P	Bottini 1993: 124-125
JS69	Metaponto	Tomb 18	320-280	D	Bottini 1993: 183
JS70	Metaponto	Tomb 18	320-280	D	Bottini 1993: 183
JS71	Metaponto	Tomb 18	320-280	P	Bottini 1993: 183
JS72	Metaponto	Tomb 18	320-280	L	Bottini 1993: 183
JS73	Canosa	Tomb 11.x.1935	350-300	L	<i>Taranto I,3</i> 1994: 340-342
JS74	Canosa	Tomb 11.x.1935	350-300	L	<i>Taranto I,3</i> 1994: 340-342
JS75	Canosa	Tomb 11.x.1935	350-300	T	<i>Taranto I,3</i> 1994: 340-342
JS76	Canosa	Tomb 11.x.1935	350-300	D	<i>Taranto I,3</i> 1994: 340-342
JS77	Canosa	Tomb 11.x.1935	350-300	D	<i>Taranto I,3</i> 1994: 340-342
JS78	Conversano	Tomb 10.11.1953	325-300	T	<i>Taranto II,1</i> 1996: 116-117
JS79	Conversano	Tomb 10.11.1953	325-300	L	<i>Taranto II,1</i> 1996: 116-117
JS80	Conversano	Tomb 10.11.1953	325-300	unk	<i>Taranto II,1</i> 1996: 116-117
JS81	Scordia	Warrior Tomb	330-300	L	Tagliamonte 1994: 291
JS82	Granozio	Tomb 1255	360-350	P	Unpublished
JS83	Carife	Tomb 9	350-280	P	Unpublished
JS84	Carife	Tomb 21	350-280	D	Unpublished
JS85	Montorio dei Frentani	Tomb 1	380-350	L	Cianfarani 1980: 83
JS86	Termoli	Tomb 4	350-280	L	Cianfarani 1980: 84
JS87	Camerelle	Tomb 103	350-300	T	Cianfarani 1980: 84
JS88	San Prisco	Tomb 16	320-300	P	Unpublished
JS89	Guado	Tomb 254	420-400	D	Cipriani and Longo 1996: 148-149
JS90	Guado	Tomb 254	420-400	L	Cipriani and Longo 1996: 148-149
JS91	Lavello	Tomb 686	350-300	D	Bottini and Fresa 1991: 65
JS92	Lavello	Tomb 686	350-300	T	Bottini and Fresa 1991: 65
JS93	Lavello	Tomb 686	350-300	L	Bottini and Fresa 1991: 65
JS94	Lavello	Tomb 686	350-300	L	Bottini and Fresa 1991: 65

JS95	Roccaspide	Tomb 3	360-350	D	Cipriani and Longo 1996: 196
JS96	Roccaspide	Tomb 3	360-350	P	Cipriani and Longo 1996: 196
JS97	Pietrabbondante	Sanctuary	350-300	D	<i>Cianfarani</i> 1980: 153
JS98	Pontecagnano	Tomb 4040	380-350	D	Serritella 1995: 67
JS99	Pontecagnano	Tomb 5755	350-300	P	Serritella 1995: 27
JS100	Pontecagnano	Tomb 4433	350-300	P	Serritella 1995: 16
JS101	Lavello	Tomb 669II	330-300	D	Bottini and Fresa 1991: tav.CCXV
JS102	Lavello	Tomb 669II	330-300	D	Bottini and Fresa 1991 : tav.CXXV
JS103	Lavello	Tomb 669II	330-320		Bottini and Fresa 1991: 60-61
JS104	Lavello	Tomb 669II	330-320		Bottini and Fresa 1991: 60-61
JS105	Lavello	Tomb 669II	330-320	D	Bottini and Fresa 1991: 60-61
JS106	Lavello	Tomb 669II	330-320	L	Bottini and Fresa 1991: 60-61
JS107	Lavello	Tomb 669II	330-320	D	Bottini and Fresa 1991: 60-61
JS108	Lavello	Tomb 669II	330-320		Bottini and Fresa 1991: 60-61
JS109	Lavello	Tomb 669II	330-320		Bottini and Fresa 1991: 60-61
JS110	Lavello	Tomb 669II	330-320	D	Bottini and Fresa 1991: 60-61
JS111	Lavello	Tomb 669II	330-320	L	Bottini and Fresa 1991: 60-61
JS112	Lavello	Tomb 669II	330-320	P	Bottini and Fresa 1991: 60-61
JS113	Lavello	Tomb 669II	330-320	P	Bottini and Fresa 1991: 60-61
JS114	Lavello	Tomb 669II	330-320	P	Bottini and Fresa 1991: 60-61
JS115	Lavello	Tomb 669II	330-320		Bottini and Fresa 1991: 60-61
JS116	Lavello	Tomb 669II	330-320		Bottini and Fresa 1991: 60-61
JS117	Lavello	Tomb 669II	330-320		Bottini and Fresa 1991: 60-61
JS118	Lavello	Tomb 669II	330-320		Bottini and Fresa 1991: 60-61



## Swords and Axes Table. 1

No.	Present Location	Accession Number	Provenance	Dimensions
SA1	Paestum	unknown	Paestum, Andriuolo	Unknown
SA2	Paestum	inv.104266	Paestum, Gaudo	77.5cm long
SA3	Paestum	inv.4826	Paestum, Gaudo	31.7x5cm fragment
SA4	Potenza	no inv.	Satriano	fragments
SA5	Potenza	unknown	San Giorgio Lucano	25cm long fragment
SA6	??	unknown	Cariati	Unknown
SA7	Syracuse	inv.42863	Scordia	75cm
SA8	Bari	inv.6811	Conversano	54cm
SA9	Metaponto	inv.26385	Metaponto, Crucina	42cm long
SA10	Pescara	unknown	Abruzzo	70cm long
SA11	Rome, Villa Guilla	inv.51188	Malpasso	77cm long
SA12	Salerno	inv.128590	Roscigno	44.2x4cm
SA13	Chieti	inv.134164	Fondillo	43cm long
SA14	Ex-Guttmann collection	cat.207 vol.II	Southern Italy	67.5cm long
SA15	Ex-Guttmann collection	cat.207 vol.II	Southern Italy	65.5cm long
SA16	Capua Vetere	inv.4400	Pietrabbondante	64.6x7.3cm
SA17	Capua Vetere	inv.4401	Pietrabbondante	67.7x5.6cm
SA18	Bari	unknown	Lavello	42-45cm
SA19	Bari	unknown	Lavello	42-45cm
SA20	Bari	unknown	Lavello	42-45cm
SA21	Chieti	inv.23163	Campovalano	81cm long
SA22	Melfi	inv.341854	Banzi	58.5cm long
SA23	Melfi	inv.342976	Banzi	45x3.5cm
SA24	Melfi	inv.342977	Banzi	53x5.5cm
SA25	Potenza	inv.216125	Chiaromonte	40x2.8cm
SA26	Potenza	inv.96668-9	Braida di Vaglio	53x4cm
SA27	Taranto	inv.6811	Giardino Fornace	54cm
SA28	Bari	inv.332041	Lavello	50x6.7cm
SA29	Bari	inv.332042	Lavello	54x4.3cm
SA30	Pescara	unknown	Abruzzo	25cm
SA31	Pescara	unknown	Abruzzo	20-25cm
SA32	Naples	unknown	Ruvo	Unknown
SA33	Naples	unknown	Ruvo	Unknown
SA34	Pontecagnano	inv.	Pontecagnano	20cm
SA35	Alfedena	inv.16359	Alfedena	12.5cm

## Swords and Axes Table.2

No.	Provenance	Context	Date	Type	Bibliography
SA1	Paestum, Andriuolo	Tomb 112	400-300	curved	Bottini 1993: 173
SA2	Paestum, Gaudio	Tomb 174	390-380	curved	Cipriani and Longo 1996: 149-152
SA3	Paestum, Gaudio	Tomb 2/1957	350-340	straight	Pontrandolfo 1993: 380-385
SA4	Satriano	Tomb 2/1987	500-450	?	Bottini 1993: 117-119
SA5	San Giorgio Lucano	Unknown	350-300	Short straight	Unpublished
SA6	Cariati	Unknown	400-300	curved	Bottini 1993: 174
SA7	Scordia	Warrior tomb	325-300	curved	Tagliamonte 1994: 291
SA8	Conversano	Tomb 10	325-300	Short straight	Taranto 1996: 116-117
SA9	Metaponto, Crucina	Tomb 17/71	490-480	Sword	Bottini 1993: 123-124
SA10	Abruzzo	Unknown	420-380	long straight	Unpublished
SA11	Malpasso	Tomb XII	450-400	curved	Unpublished
SA12	Roscigno	Tomb 1100	480-460	Sword	Cipriani and Longo 1996: 94
SA13	Fondillo	Tomb 48	450-400	Sword	Unpublished
SA14	Southern Italy	Unknown	550-450	long straight	Christies 2004: 82
SA15	Southern Italy	Unknown	550-450	long straight	Christies 2004: 82
SA16	Pietrabbondante	Sanctuary	330-280	gladius?	Cianfarani 1980: 153
SA17	Pietrabbondante	Sanctuary	330-280	gladius?	Cianfarani 1980: 153
SA18	Lavello	Tomb 279/27		Sword	Bottini and Fresa 1991: 58
SA19	Lavello	Tomb 302		Sword	Bottini and Fresa 1991: 61
SA20	Lavello	Tomb 38/2		Sword	Bottini and Fresa 1991: 61
SA21	Campovalano	Tomb 97	600-500	long straight	Mangiani 2000: 144, 158
SA22	Banži	Tomb 421	400-350	Sword	Genti 2001: 84-85
SA23	Banži	Tomb 491	575-500	Sword	Genti 2001: 77
SA24	Banži	Tomb 491	575-500	Kopis	Genti 2001: 77
SA25	Chiaromonte	Tomb 652	500-470	Sword	Genti 2001: 83
SA26	Braida di Vaglio	Tomb 107	500-470	Sword	Genti 2001: 77
SA27	Giardino Fornace	Unknown	500-450	Sword	Taranto 1996: 116-117
SA28	Lavello	Tomb 600	400-350	Sword	Bottini and Fresa 1991: 42
SA29	Lavello	Tomb 600	400-350	Sword	Bottini and Fresa 1991: 42
SA30	Abruzzo	Unknown	450-400	Axe	Unpublished
SA31	Abruzzo	Unknown	450-400	Axe	Unpublished
SA32	Ruvo	Unknown	500-400	Axe	Weege 1909: 142
SA33	Ruvo	Unknown	500-400	Axe	Weege 1909: 142
SA34	Pontecagnano	Tomb	650-600	Axe	Unpublished
SA35	Alfedena	Tomb 67	500-480	Axe	Cianfarani 1980: 153

**Tomb Paintings Table. 1**

No.	Location	Accession Number	Provenance	Topic
WP1	Paestum	Unknown	Paestum, Andriuolo	Duel
WP2	Paestum	Unknown	Paestum, Andriuolo	Duel
WP3	Paestum	Unknown	Paestum, Andriuolo	Duel, Returning warrior
WP4	Paestum	Unknown	Paestum, Andriuolo	Duel, Hunting
WP5	Paestum	Unknown	Paestum, Andriuolo	Duel, Returning warrior
WP6	Paestum	Unknown	Paestum, Andriuolo	Duel, Returning warrior, Panoply
WP7	Paestum	Unknown	Paestum, Andriuolo	Duel, Returning warrior
WP8	Paestum	Unknown	Paestum, Andriuolo	Duel, Returning warrior
WP9	Paestum	Unknown	Paestum, Andriuolo	Duel, Hunting
WP10	Paestum	Unknown	Paestum, Andriuolo	Duel, Returning warrior, Panoply
WP11	Paestum	Unknown	Paestum, Andriuolo	Duel (poor condition)
WP12	Paestum	Unknown	Paestum, Andriuolo	Duel, Returning warrior
WP13	Paestum	Unknown	Paestum, Andriuolo	Duel (poor condition)
WP14	Paestum	Unknown	Paestum, Andriuolo	Returning warrior
WP15	Paestum	Unknown	Paestum, Andriuolo	Hunting
WP16	Paestum	Unknown	Paestum, Andriuolo	Warrior
WP17	Paestum	Unknown	Paestum, Andriuolo	Battle, Returning warrior
WP18	Paestum	Unknown	Paestum, Andriuolo	Returning warrior
WP19	Paestum	Unknown	Paestum, Andriuolo	Returning warrior
WP20	Paestum	Unknown	Paestum, Andriuolo	Battle, Returning warrior, Warrior
WP21	Paestum	Unknown	Paestum, Andriuolo	Returning warrior
WP22	Paestum	Unknown	Paestum, Arcioni	Duel, Hunting
WP23	Paestum	Unknown	Paestum, Arcioni	Duel
WP24	Paestum	Unknown	Paestum, C.V. di Agropoli	Duel, Returning warrior
WP25	Paestum	Unknown	Paestum, Gaudo	Duel, Hunting
WP26	Paestum	Unknown	Paestum, Gaudo	Duel, Returning warrior, Hunting
WP27	Paestum	Unknown	Paestum, Gaudo	Duel
WP28	Paestum	Unknown	Paestum, Gaudo	Duel
WP29	Paestum	Unknown	Paestum, Laghetto	Duel, Returning warrior, Hunting
WP30	Paestum	Unknown	Paestum, Laghetto	Duel
WP31	Paestum	Unknown	Paestum, Laghetto	Duel, Returning warrior
WP32	Paestum	Unknown	Paestum, Sequestro Finanza	Duel, Returning warrior, Hunting
WP33	Paestum	Unknown	Paestum, Sequestro Finanza	Returning warrior, Hunting
WP34	Paestum	Unknown	Paestum, Sequestro Finanza	Returning warrior
WP35	Paestum	Unknown	Paestum, Vannullo	Duel
WP36	Paestum	Unknown	Paestum, Vannullo	Returning warrior
WP37	Paestum	Unknown	Paestum, Vannullo	Returning warrior
WP38	Paestum	Unknown	Paestum, Vannullo	Duel
WP39	Paestum	Unknown	Paestum	Panoply
WP40	Paestum	Unknown	Paestum, Spinazzo	Warrior
WP41	Paestum	Unknown	Paestum, Spinazzo	Departing warrior
WP42	Paestum	Unknown	Paestum, Spinazzo	Departing warrior
WP43	Naples	inv.146572	Paestum, s. Nicola Albanella	Duel
WP44	Capua Vetere	Unknown	Paestum	Panoply
WP45	Naples	inv.9348, 9358-9	Gnathia	Panoply
WP46	Salerno	Unknown	Sarno, Galitta del Capitano	Returning warrior
WP47	Naples	Unknown	Nola	Returning warriors
WP48	Capua Vetere	Unknown	Nola	Returning warriors
WP49	Capua Vetere	Unknown	Nola	Cavalrymen
WP50	Capua Vetere	Unknown	Capua, S. Prisco	Returning warrior

WP51	Capua	Unknown	Capua, S. Prisco	Battle
WP52	Capua	Unknown	Capua	Duel



## Tomb Paintings Table. 2

No.	Provenance	Context	Date	Bibliography
WP1	Paestum, Andriuolo	Tomb 24/1971	380-370	Pontrandolfo and Rouveret 1992: 188
WP2	Paestum, Andriuolo	Tomb 53	350-340	Pontrandolfo and Rouveret 1992: 136-141
WP3	Paestum, Andriuolo	Tomb 58	340-330	Pontrandolfo and rouveret 1992: 149-153
WP4	Paestum, Andriuolo	Tomb 90	370-360	Pontrandolfo and Rouveret 1992: 109-112
WP5	Paestum, Andriuolo	Tomb 1937	370-360	Pontrandolfo and Rouveret 1992: 202-205
WP6	Paestum, Andriuolo	Tomb 28	340-330	Pontrandolfo and Rouveret 1992: 156-159
WP7	Paestum, Andriuolo	Tomb 4/1971	310-300	Pontrandolfo and Rouveret 1992: 198-199
WP8	Paestum, Andriuolo	Tomb 20	380-370	Pontrandolfo and Rouveret 1992: 91-93
WP9	Paestum, Andriuolo	Tomb 32	360-350	Pontrandolfo and Rouveret 1992: 106-108
WP10	Paestum, Andriuolo	Tomb 61	350-340	Pontrandolfo and Rouveret 1992: 118-121
WP11	Paestum, Andriuolo	Tomb 54	340-330	Pontrandolfo and Rouveret 1992: 128-129
WP12	Paestum, Andriuolo	Tomb 48	340-330	Pontrandolfo and Rouveret 1992: 142-145
WP13	Paestum, Andriuolo	Tomb 1/1971	380-370	Pontrandolfo and Rouveret 1992: 187
WP14	Paestum, Andriuolo	Tomb 12	370-360	Pontrandolfo and Rouveret 1992: 100-101
WP15	Paestum, Andriuolo	Tomb 18	370-360	Pontrandolfo and Rouveret 1992: 104-105
WP16	Paestum, Andriuolo	Tomb 24	350-340	Pontrandolfo and Rouveret 1992: 116
WP17	Paestum, Andriuolo	Tomb 104	340-330	Pontrandolfo and Rouveret 1992: 134-136
WP18	Paestum, Andriuolo	Tomb 84	350-340	Pontrandolfo and Rouveret 1992: 147
WP19	Paestum, Andriuolo	Tomb 86	340-330	Pontrandolfo and Rouveret 1992: 162-163
WP20	Paestum, Andriuolo	Tomb 114	330-320	Pontrandolfo and Rouveret 1992: 174-177
WP21	Paestum, Andriuolo	Tomb 80	300-290	Pontrandolfo and Rouveret 1992: 180-181
WP22	Paestum, Arcioni	Tomb 271/1976	380-370	Pontrandolfo and Rouveret 1992: 225-229
WP23	Paestum, Arcioni	Tomb 1/1990	360-350	Cipriani, Pontrandolfo, Rouveret 1998: 50
WP24	Paestum, C. V. di Agropoli	Tomb 11/1967	360-350	Pontrandolfo and Rouveret 1992: 246-248
WP25	Paestum, Gaudio	Tomb 7	370-360	Pontrandolfo and Rouveret 1992: 251-253
WP26	Paestum, Gaudio	Tomb 1/1972	370-360	Pontrandolfo and Rouveret 1992: 254-255
WP27	Paestum, Gaudio	Tomb 2/1957	350-340	Pontrandolfo and Rouveret 1992: 260-261
WP28	Paestum, Gaudio	Tomb 2/1972	340-	Pontrandolfo and Rouveret 1992: 264

			330	
			370-	
WP29	Paestum, Laghetto	Tomb LXIV	360	Pontrandolfo and Rouveret 1992: 208-209
			350-	
WP30	Paestum, Laghetto	Tomb X	340	Pontrandolfo and Rouveret 1992: 210-212
			340-	
WP31	Paestum, Laghetto	Tomb III	330	Pontrandolfo and Rouveret 1992: 219-220
			370-	
WP32	Paestum, Sequestro Finanza	Tomb 1	360	Pontrandolfo and Rouveret 1992: 296-298
WP33	Paestum, Sequestro Finanza	Tomb 3		Pontrandolfo and Rouveret 1992: 294-295
WP34	Paestum, Sequestro Finanza	Tomb 2		Pontrandolfo and Rouveret 1992: 301
			360-	
WP35	Paestum, Vannullo	Tomb 2	350	Pontrandolfo and Rouveret 1992: 279-281
			350-	
WP36	Paestum, Vannullo	Tomb 4	340	Pontrandolfo and Rouveret 1992: 286-287
			340-	
WP37	Paestum, Vannullo	Tomb 3	330	Pontrandolfo and Rouveret 1992: 290
			340-	
WP38	Paestum, Vannullo	Tomb 1	330	Pontrandolfo and Rouveret 1992: 293
			350-	
WP39	Paestum	Unknown	300	Pontrandolfo and Rouveret 1992: 302
			300-	
WP40	Paestum, Spinazzo	Tomb 11	290	Cipriani, Pontrandolfo, Rouveret 1998: 70-71
			300-	
WP41	Paestum, Spinazzo		290	Cipriani, Pontrandolfo, Rouveret 1998: 73
			300-	
WP42	Paestum, Spinazzo		290	Postcard
			330-	
WP43	Paestum, S. Nicola Albanella	Unknown	300	Boriello and De Caro 1996: 29-30
			350-	
WP44	Paestum	Unknown	300	unpublished
			300-	
WP45	Gnathia	Unknown	260	Boriello and De Caro 1996: 165-166
			360-	
WP46	Sarno, Galitta del Capitano	Warrior tomb	330	Lobell 2004: 36-39
			330-	
WP47	Nola	Warrior tomb	310	Boriello and De Caro 1996: 252-253
			330-	
WP48	Nola	Warrior tomb	310	Benassai 2002: 200-206
			330-	
WP49	Nola	Cavalryman tomb	310	Benassai 2002: 197-199
			330-	
WP50	Capua, S. Prisco	Tomb 16	300	Benassai 2002: 208
			330-	
WP51	Capua, S. Prisco	Tomb 13	300	Benassai 2002: 184-186
			350-	
WP52	Capua	Unknown	300	Weege 1909: 106, pl.11

# Peoples of peninsular Italy c.350



Fig.1 The Italic peoples of peninsular Italy c.350 (Salmon 1982: xii)

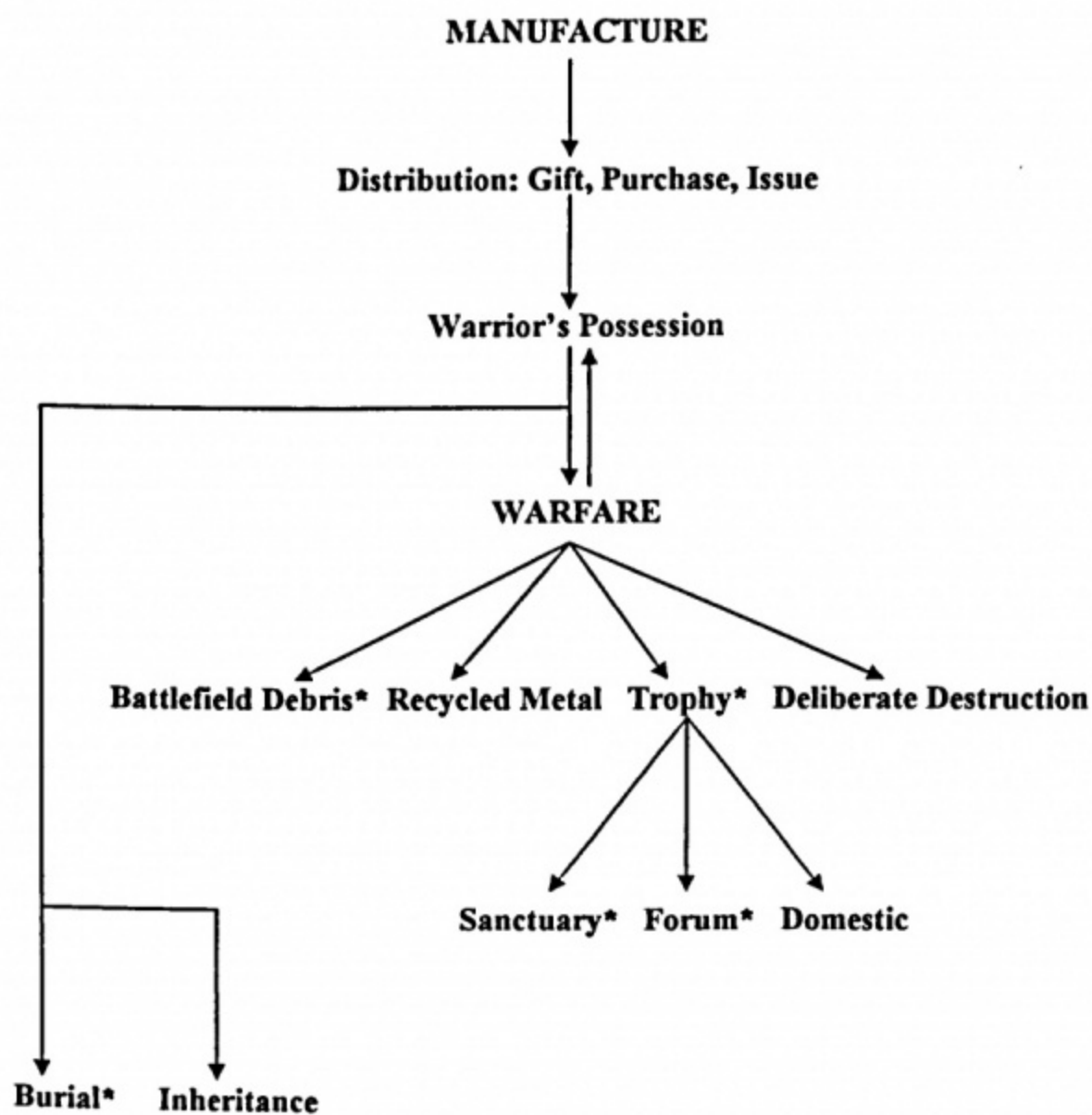
The peoples of the central Apennines c.350



Fig.2 Samnium and the south-central Italic peoples (Salmon 1967: 25).



# The Life-Cycle of South Italic Military Equipment in the Fourth Century



\*Possible Archaeological Deposition

Fig.3 The Life-Cycle of South Italic Military Equipment in the Fourth Century

# The Triple-disc Cuirass

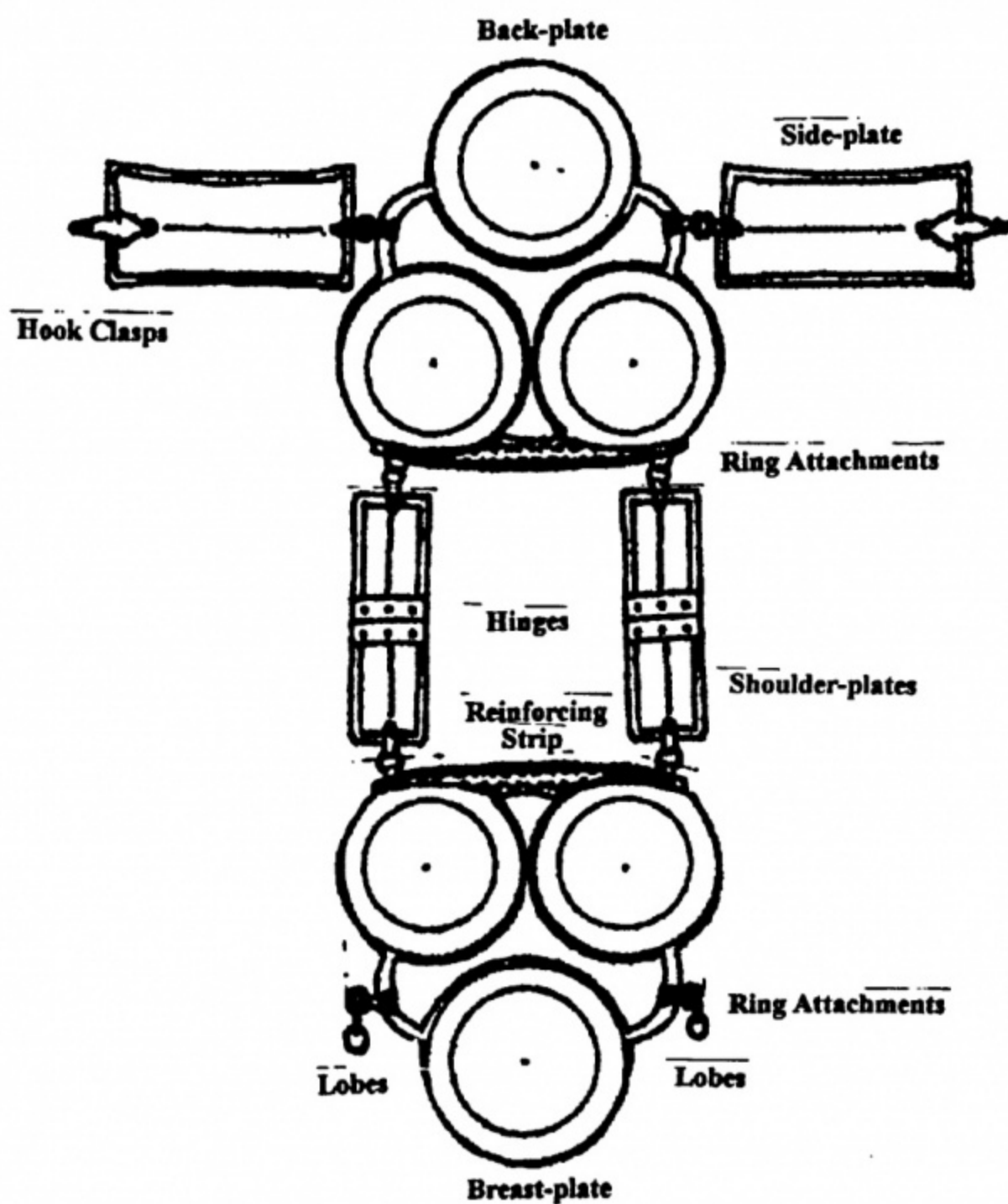
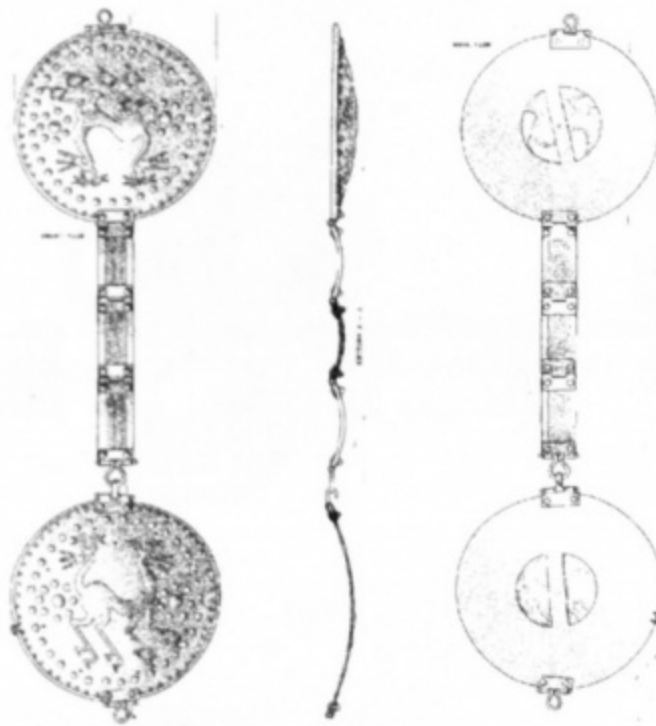
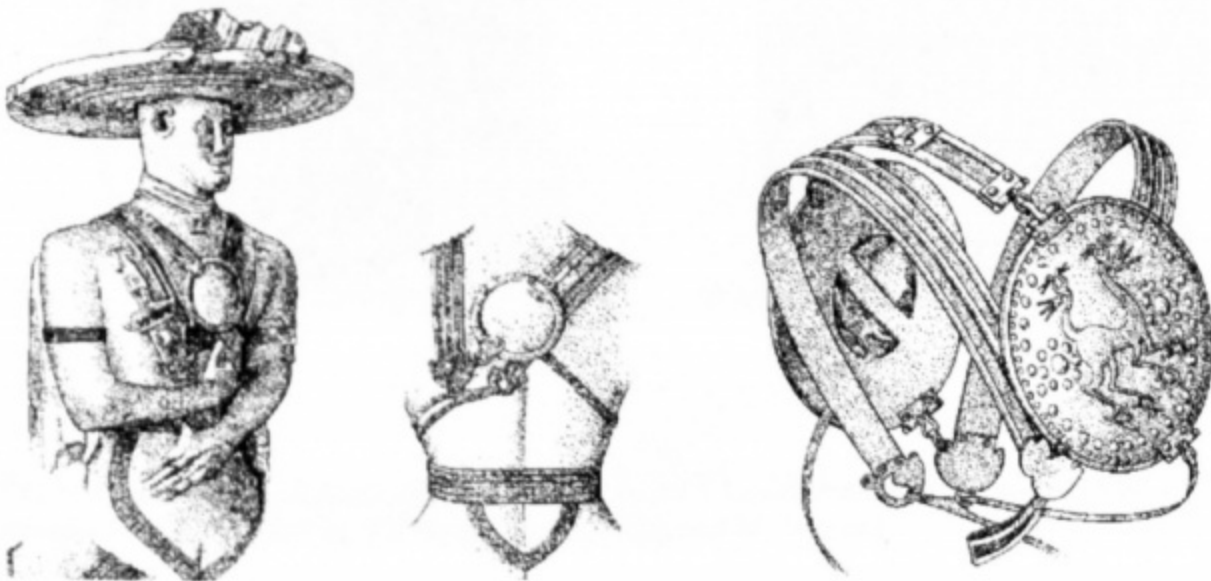


Fig.4 Diagram of the Triple-disc Cuirass

### The Single-disc Cuirass



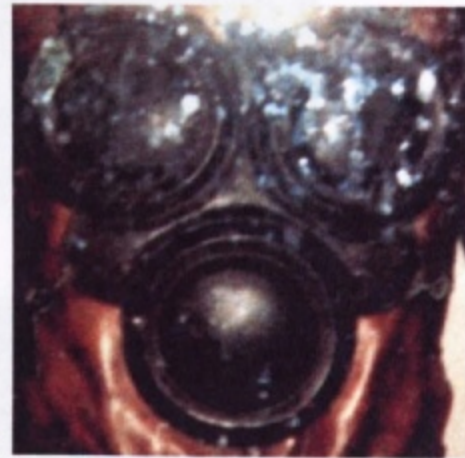
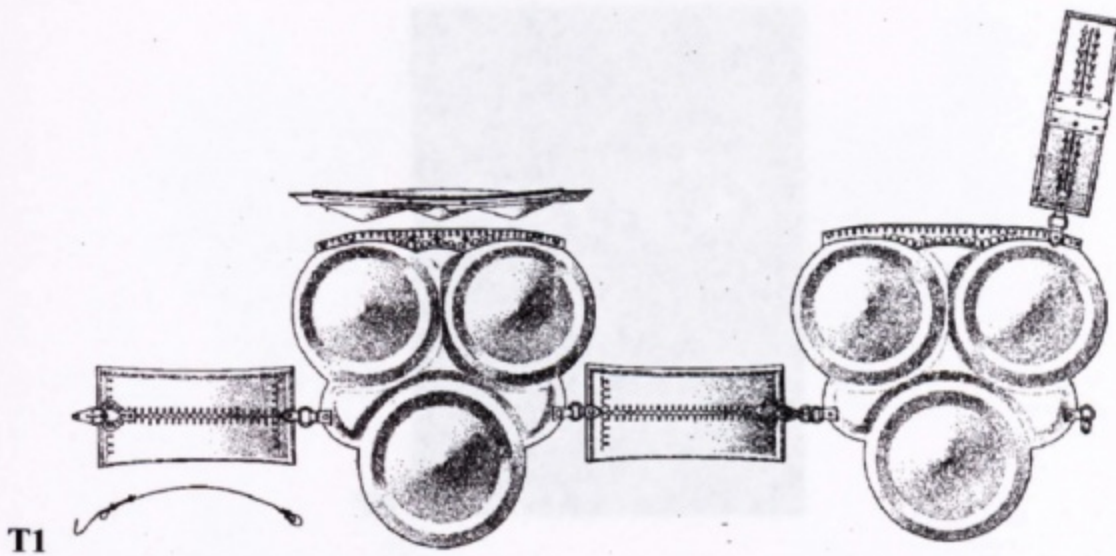
1. Three views of the single-disc cuirass and shoulder strap from Alfedena



2. Front and back view of the Capestrano warrior statue 3. The single-disc harness

Fig.5 The single-disc cuirass (by Connolly 1986: pl.1)

### The Triple-disc Cuirass



**Fig.6 Triple-disc cuirasses, all type 1 Alfedena: T1 Alfedena (by Connolly 1986), T2 Aquila (Mangiani 2000), T3 Southern Italy (photo M. Burns)**



### The Triple-disc Cuirass



T4



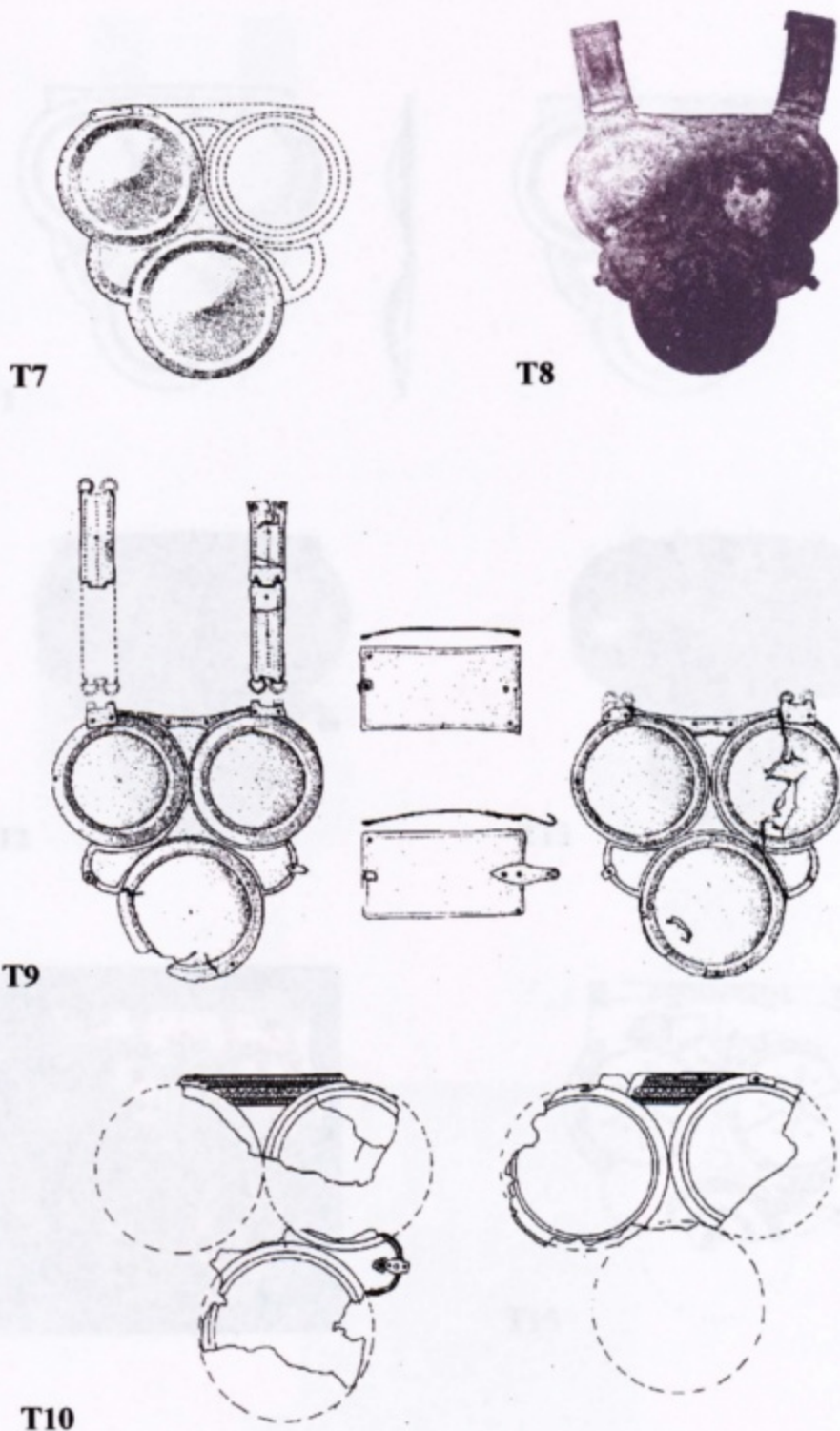
T5



T6

**Fig.7 Triple-disc cuirasses, all type 1 Alfedena: T4 Alfedena, T5 Alfedena (photo by M. Burns), T6 Marsica (Bouzek 1998).**

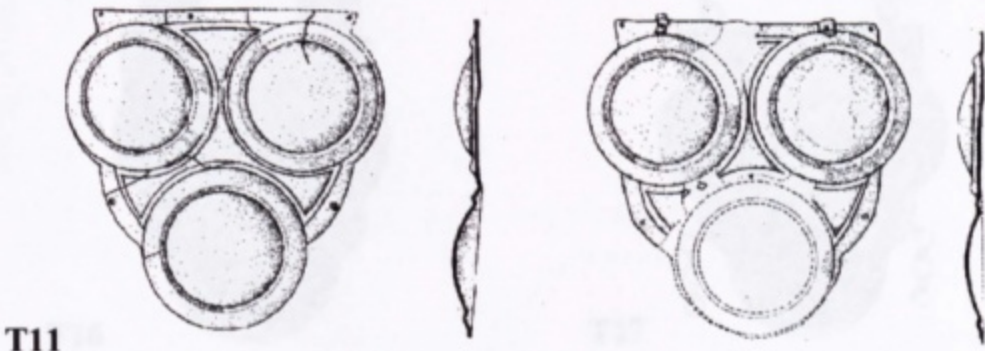
### The Triple-disc Cuirass



**Fig.8 Triple-disc cuirasses, all type 1 Alfedena: T7 Southern Italy, (by Connolly 1986), T8 Ruvo, (photo by P. Connolly), T9 Spoltore (after Papi 2000), T10 Manoppello, related to the type 1 Alfedena (after Papi 2000).**



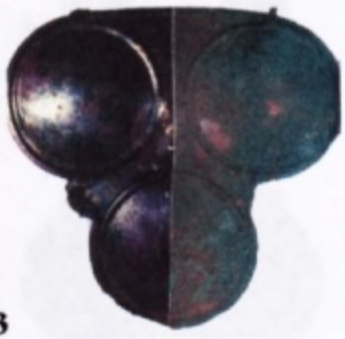
# The Triple-disc Cuirass



T11



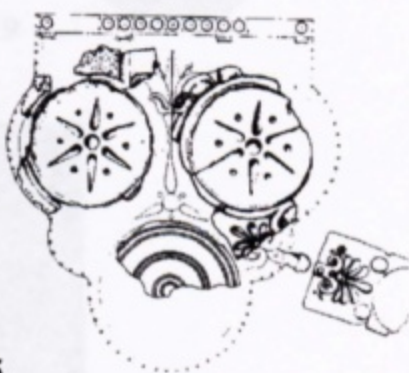
T12



T13



T14



T15

**Fig.9 Triple-disc cuirasses: T11 The Abruzzo (after Papi 2000), T12 Etruria, later type (courtesy of J.P. Getty Museum), T13 Southern Italy, later type (Born 1993), T14 Carthage, type 2 Magna Graecia (Connolly 1982), T15 Senise, type 2 Magna Gaecia (Bianco 1996).**

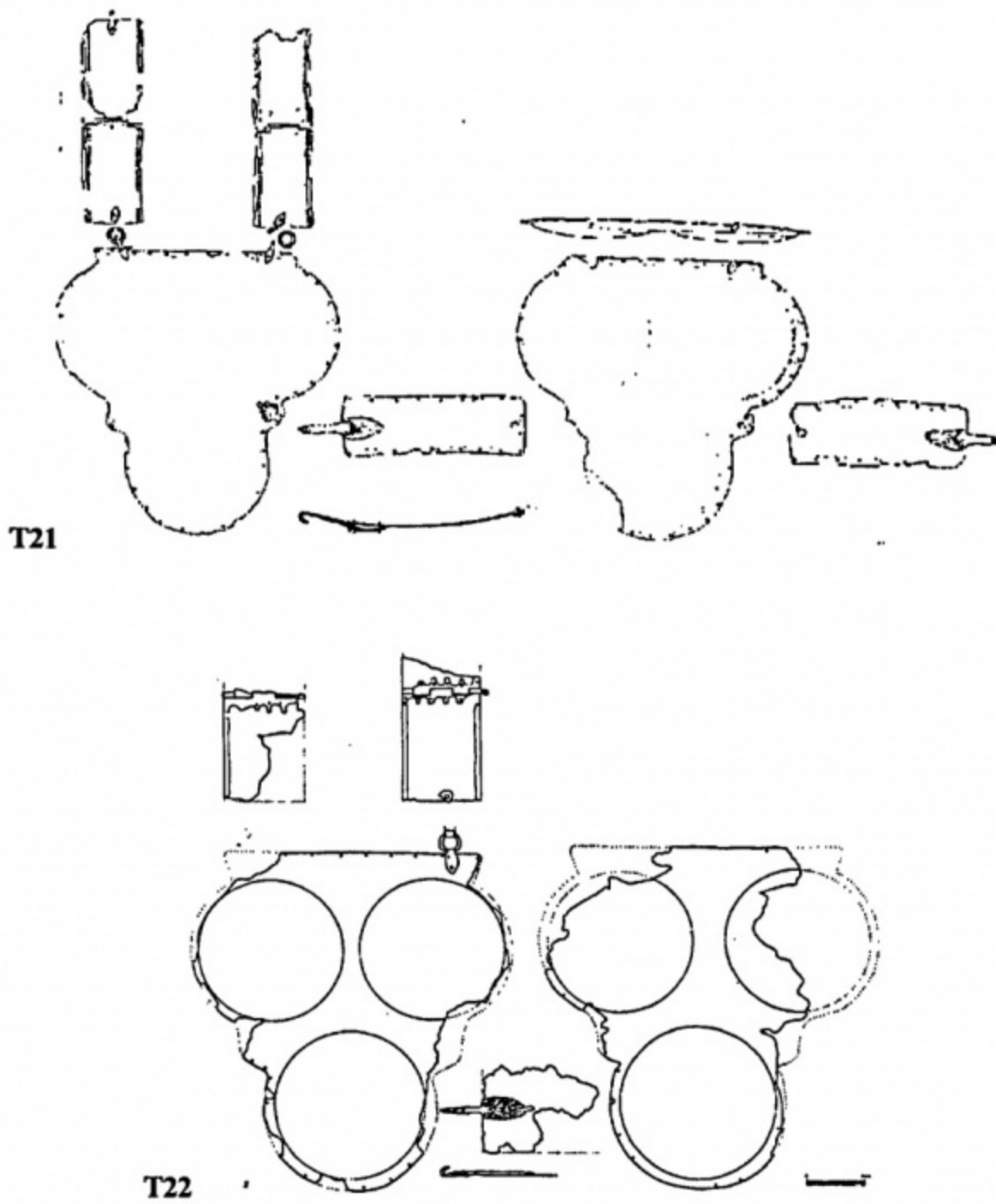
### The Triple-disc Cuirass



**Fig.10 Triple-disc Cuirasses: Type 2 Magna Graecia: T16 Ruvo, type 2 Magna Graecia (photo by P. Connolly), T17 Southern Italy (Schneider-Herrmann 1996); Type 2 angular lobe: T18 Ruvo (by Connolly 1986), T19 ex-Guttmann coll. (photo by M. Burns), T20 ex-Guttmann coll. (photo by M. Burns).**

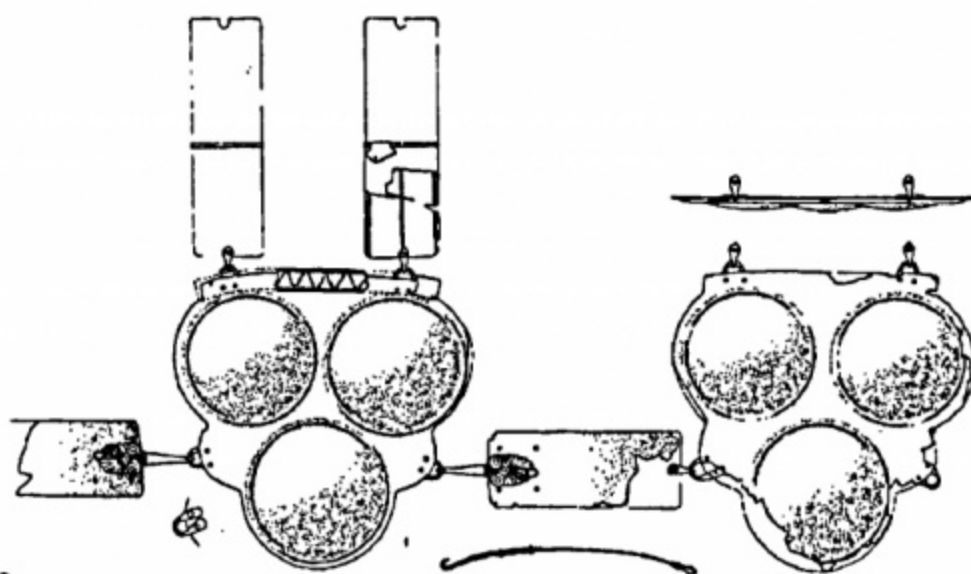


# The Triple-disc Cuirass

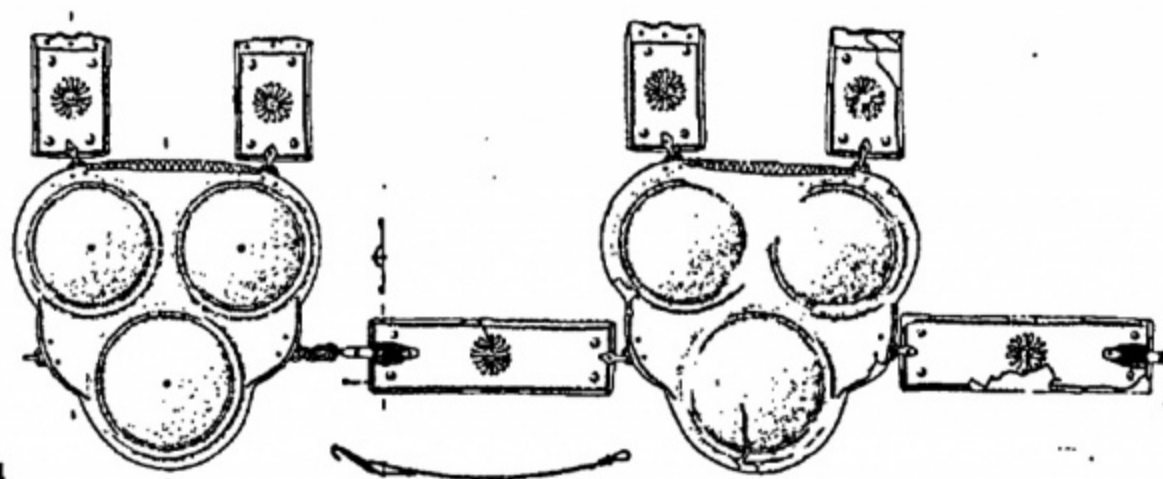


**Fig.11 Triple-disc cuirasses: Type 2 angular lobe: T21 Paestum, Gaudo (Cipriani and Longo 1996), T22 Paestum, San Venera (Pontrandolfo and Rouveret 1993).**

### The Triple-disc Cuirass



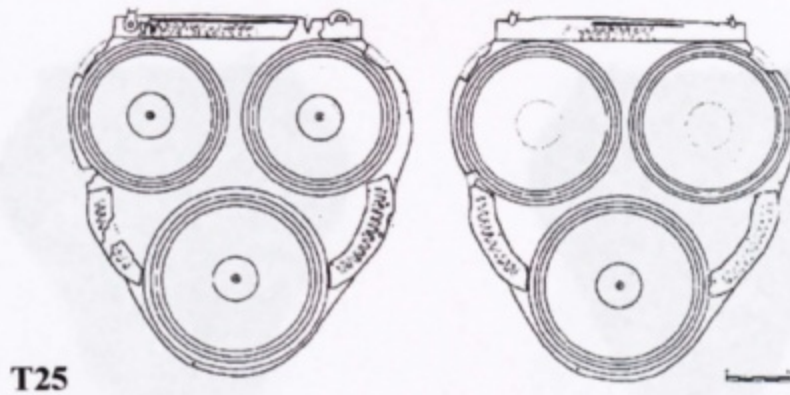
T23



T24

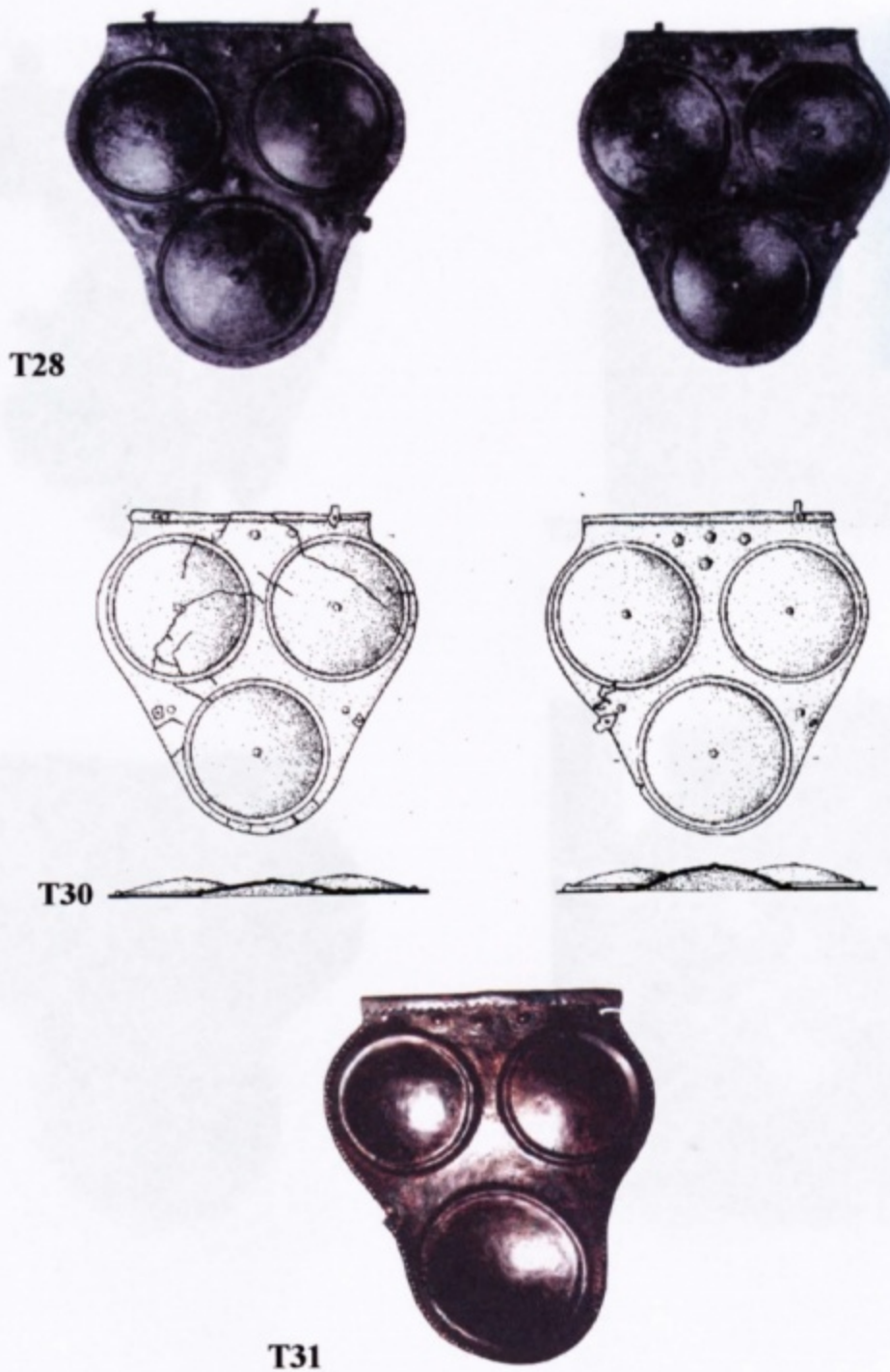
Fig.12 Triple-disc cuirasses: T23 Paestum, Gaudo (Cipriani and Longo 1996), T24 Paestum, Gaudo (Cipriani and Longo 1996).

### The Triple-disc Cuirass



**Fig.13 Triple-disc cuirasses: Later types; T25 Paestum, Porta Aurea (Pontrandolfo and Rouveret 1993), T26 Paestum, Gaudio (photo by M. Burns), T27 Puglia (Courtesy of the Karlsruhe Landesmuseum).**

### The Triple-disc Cuirass



**Fig.14 Triple-disc cuirasses: Type 4 Northern: T28 Once London Market (Schneider-Herrmann 1996), T30 Spoltore (Papi 2000), T31 ex-Guttmann coll. (photo by M. Burns).**



### The Triple-disc Cuirass



T32



T33



T34

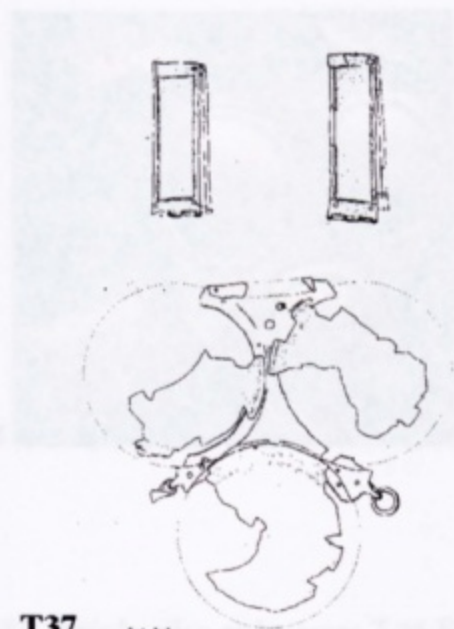


T36

**Fig.15 Triple-disc cuirasses, later types: T32 Vulci (Courtesy of MFA Boston). T33 Southern Italy (Courtesy of J.P. Getty Museum). T34 ex-Guttmann coll. (Born 1994). T36 Southern Italy (photo P. Connolly).**

*Fig.16 Triple-disc cuirasses: T37 Vulci (Kajava 1991), T41 ex-Guttmann coll. (photo M. Burrows), T42 Southern Italy (photo P. Connolly), T43 Southern Italy (photo M. Burrows).*

### The Triple-disc Cuirass



T37

T41



T42



T43

**Fig.16 Triple-disc cuirasses: T37 Oratino (Capini 1991), T41 ex-Guttman coll. (photo M. Burns), T42 Southern Italy (photo P. Connolly), T43 Southern Italy (photo M. Burns).**



The Triple-disc Cuirass



T44

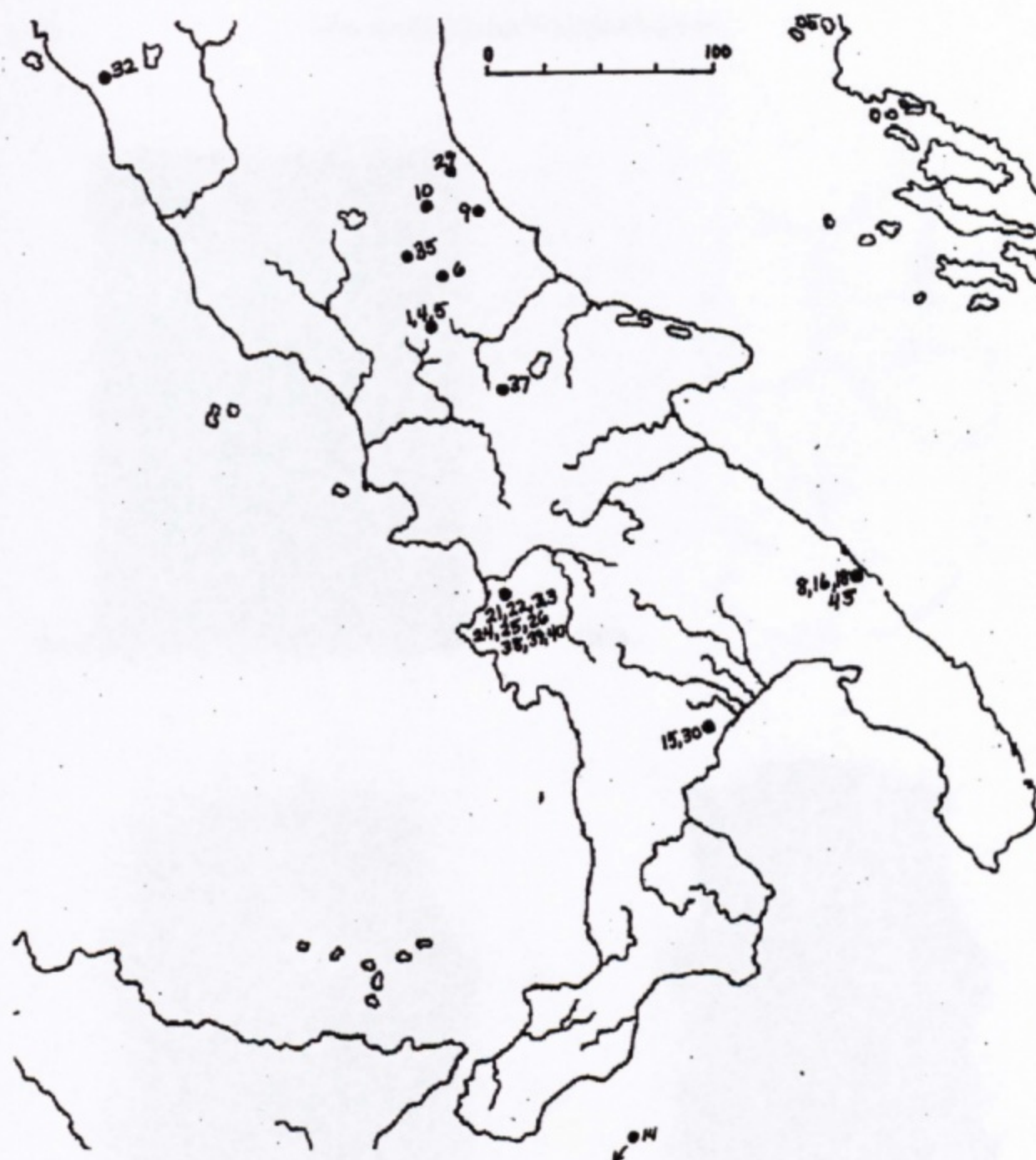


T45

**Fig.17 Triple-disc cuirasses: T44 Southern Italy, related to type 1 Alfedena (Once New York), T45 Ruvo, type 2 Magna Graecia (Courtesy of Karlsruhe Landesmuseum).**

*Fig.18 Distribution of Triple-disc cuirasses*

1. Alfedena, 2. Alfedena, 3. Alfedena, 4. Marske, 5. Ruvo, 6. Spina  
7. Montepulciano, 8. Carthage, 9. Sardinia, 10. Ruvo, 11. Ruvo, 12-13. Fossombrone  
14. Fossombrone, 15. Spina, 16. Voltri, 17. Majella, 18. Ovindoli  
19-20. Fossombrone, 21. Ruvo



**Fig.18 Distribution of Triple-disc cuirasses**

1. Alfedena, 4. Alfedena, 5. Alfedena, 6. Marsica, 8. Ruvo, 9. Spoltore  
 10. Manoppello, 14. Carthage, 15. Senise, 16. Ruvo, 18. Ruvo, 21-26. Paestum  
 29. Pennapiedamonte, 30. Spoltore, 32. Vulci, 35. Majella, 37. Oratino  
 38-40. Paestum, 45. Ruvo



### The Greek-style Muscle Cuirass



GC1



GC4



GC5



GC9

**Fig.19 Muscle cuirasses: GC1 Ginosa, short type (photo M. Burns), GC4 S. Giorgio Lucano, long type (Bottini 1993), GC5 Canosa, long type (photo M. Burns), GC9 Canosa, long type (Carratelli 1996).**

### The Greek-style Muscle Cuirass



GC12



GC13



GC14

**Fig.20 Muscle cuirasses, long types: GC12 Southern Italy (Courtesy of J.Paul Getty Museum), GC13 Apulia (photo J. Green), GC14 Ruvo (photo M. Burns).**



### The Greek-style Muscle Cuirass



**Fig.21 Muscle cuirasses: GC15 Southern Italy, short type (photo M. Burns), GC16 Ruvo, long type (photo M. Burns), GC17 Southern Italy, short type (Cahn 1999), GC18 Southern Italy, short type (Courtesy of Royal Athena F.A. N.Y.)**

### The Greek-style Muscle Cuirass

GC20



GC21



GC22



**Fig.22 Muscle cuirasses: GC20 Southern Italy, short type (photo M. Burns), GC21 Southern Italy, short type (photo M. Burns), GC22 Southern Italy, long type (photo M. Burns).**



### The Greek-style Muscle Cuirass



GC23

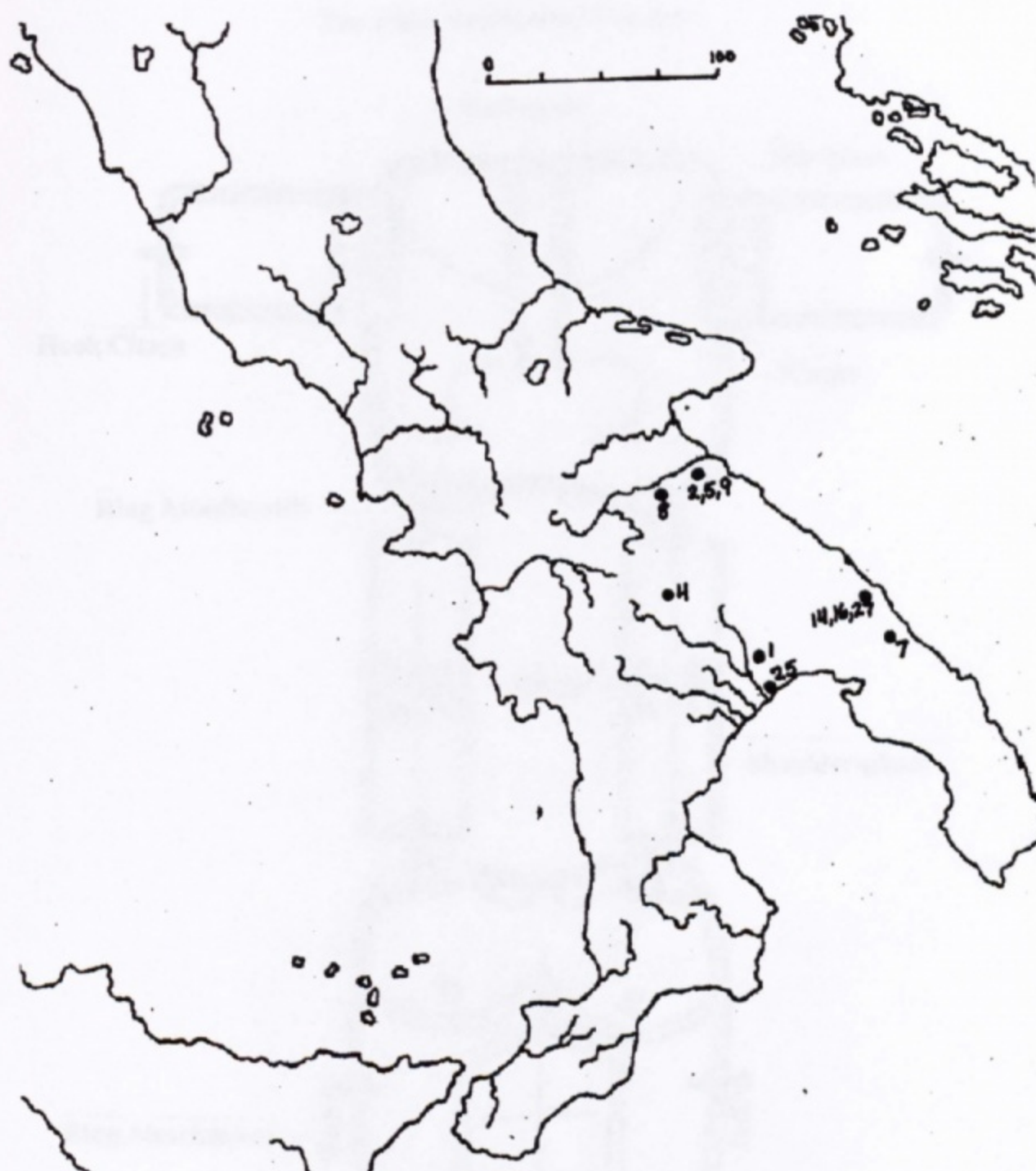


GC28



GC29

**Fig.23 Muscle cuirasses:** GC23 Southern Italy, short type (photo M. Burns), GC28 Magna Graecia, long type (Zimmermann 1979), GC29 Lanuvium, long type (Guerrieri 2003).



**Fig.24 Distribution of Greek-style Muscle Cuirasses**

1. Ginosa, 2. Canosa, 4. S. Giorgio Lucano, 5. Canosa, 7. Conversano, 8. Lavello  
9. Canosa, 14. Ruvo, 16. Ruvo, 25. Metaponto, 27. Ruvo



# The Italic Anatomical Cuirass

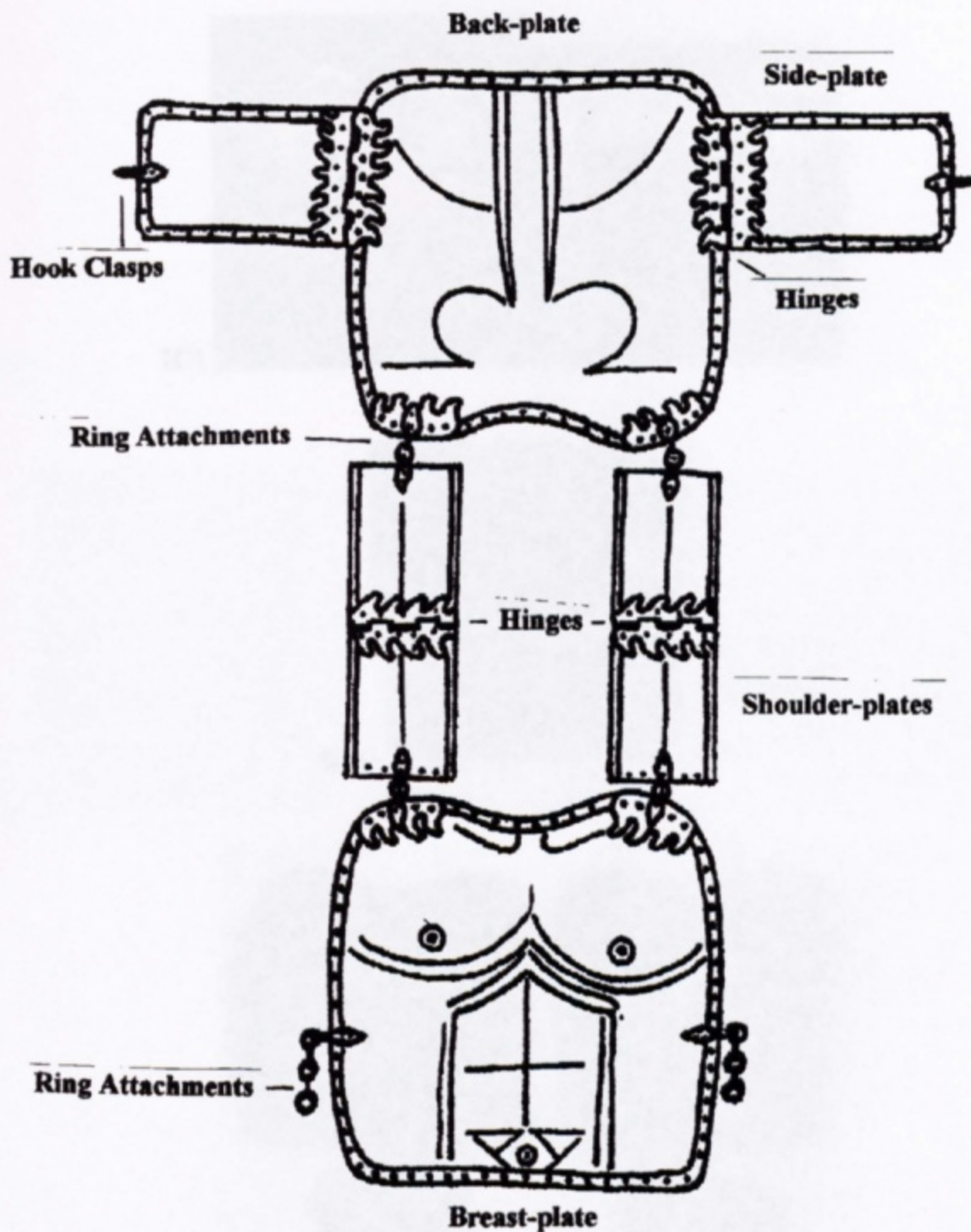


Fig.25 Diagram of the Italic Anatomical Cuirass

### The Italic Anatomical Cuirass



IC1



IC2

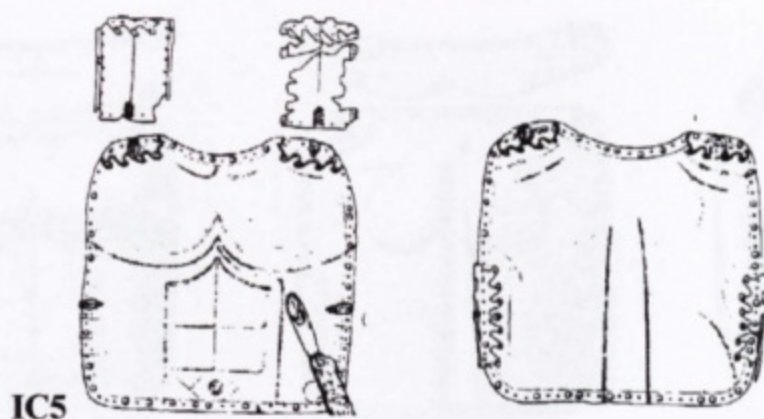


IC3

**Fig.26 Anatomical cuirasses, type 1: IC1 Cumae (Courtesy of Royal Armouries, Leeds), IC2 Southern Italy, Swiss private coll. IC3 Southern Italy (photo P. Connolly).**

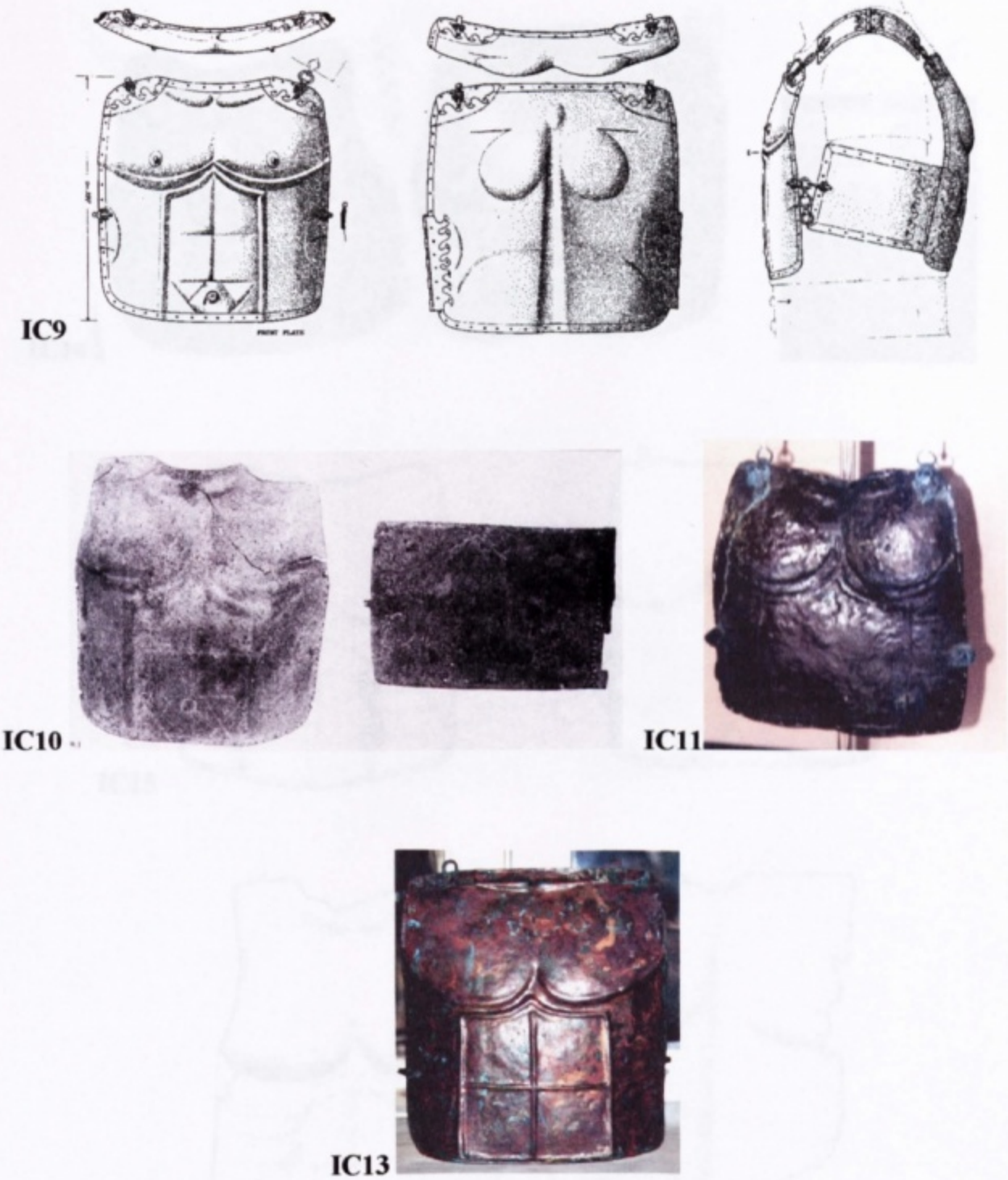


### The Italic Anatomical Cuirass



**Fig.27 Anatomical cuirasses, type 1: IC5 Eboli (after Caratelli 1996), IC6 Eboli (photo M. Burns), IC7 Southern Italy (photo M. Burns).**

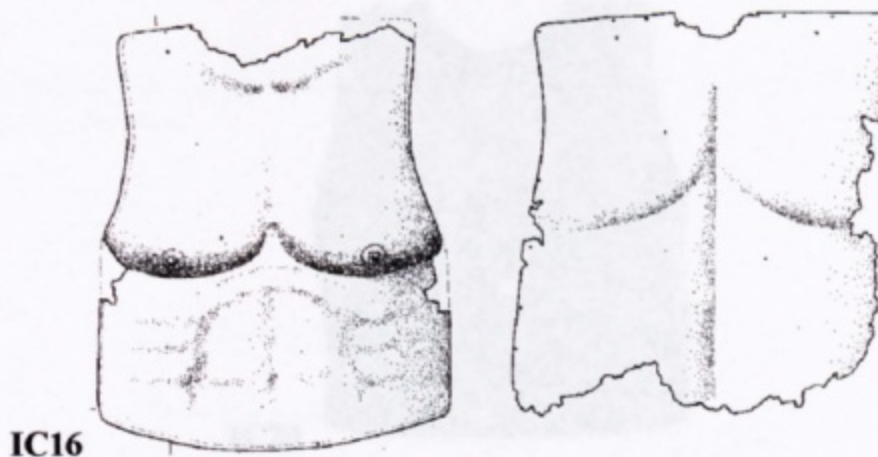
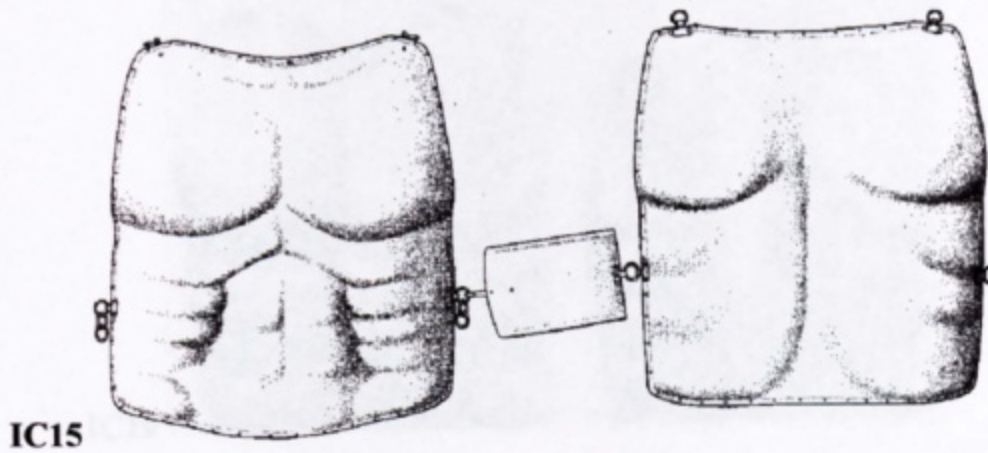
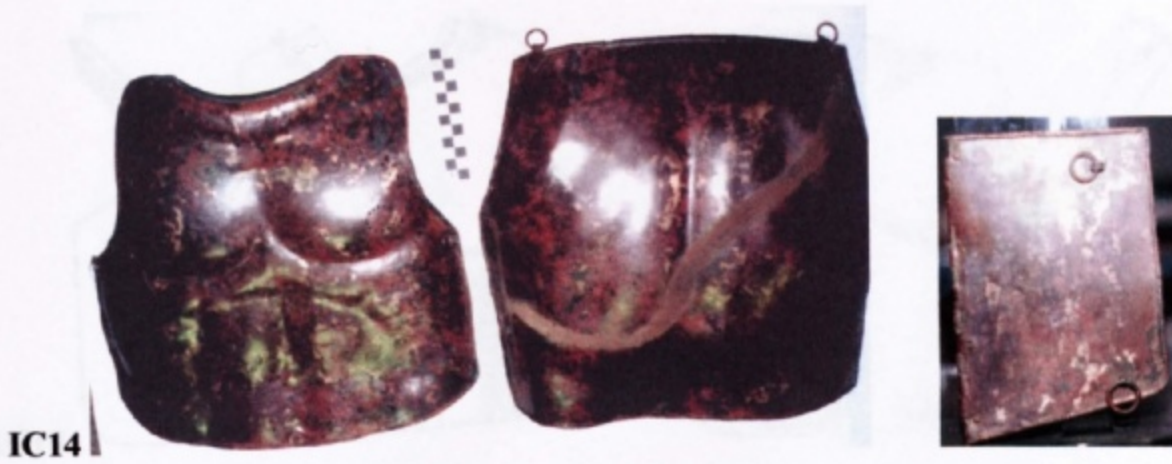
The Italic Anatomical Cuirass



**Fig.28 Anatomical cuirasses, type 1: IC9 Alfedena (after Connolly 1986), IC10 Ruvo (Taranto 1994), IC11 Spoltore (photo M. Burns), Southern Italy (photo P. Connolly).**

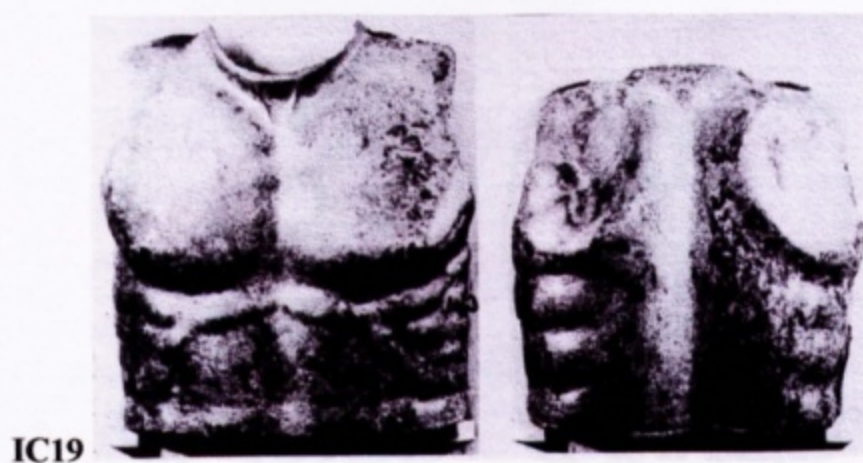
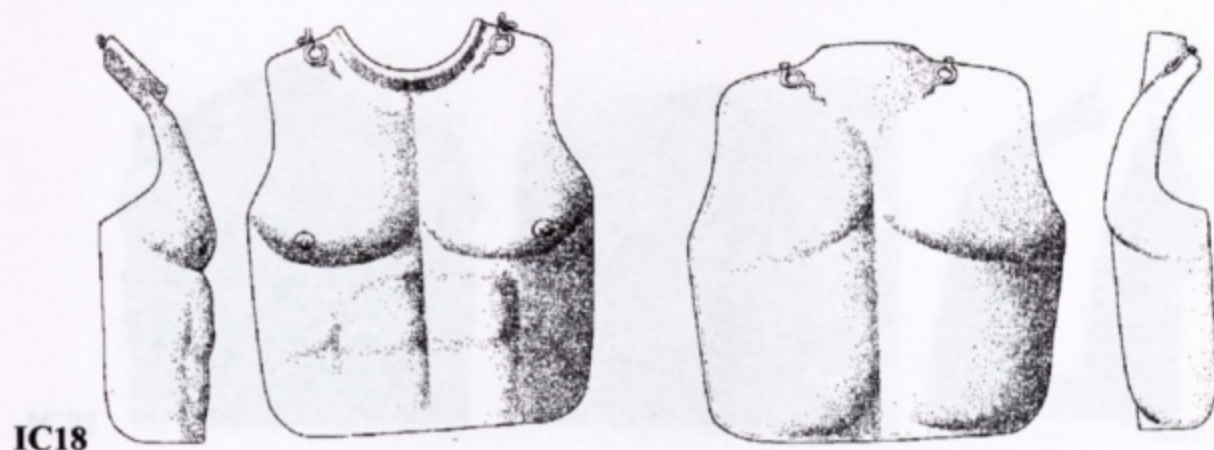


### The Italic Anatomical Cuirass



**Fig.29 Anatomical cuirasses: IC14 ex-Guttmann coll., type 2 (photo M. Burns), IC15 Paestum, type 3 (after Connolly 1986), IC16 Southern Italy, type 4 (after Connolly 1986).**

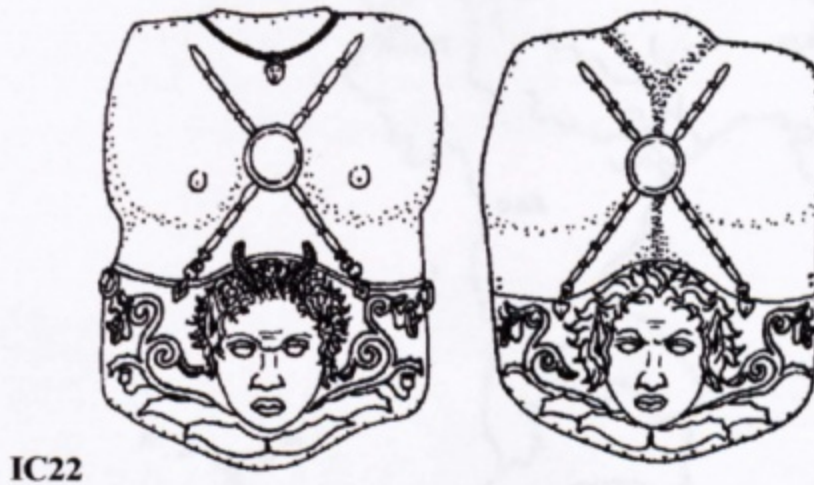
### The Italic Anatomical Cuirass



**Fig.30 Anatomical cuirasses, type 5: IC18 Paestum (after Connolly 1986), IC19 Scordia (Tagliamonte 1985), IC20 Ruvo (Ridder 1915).**



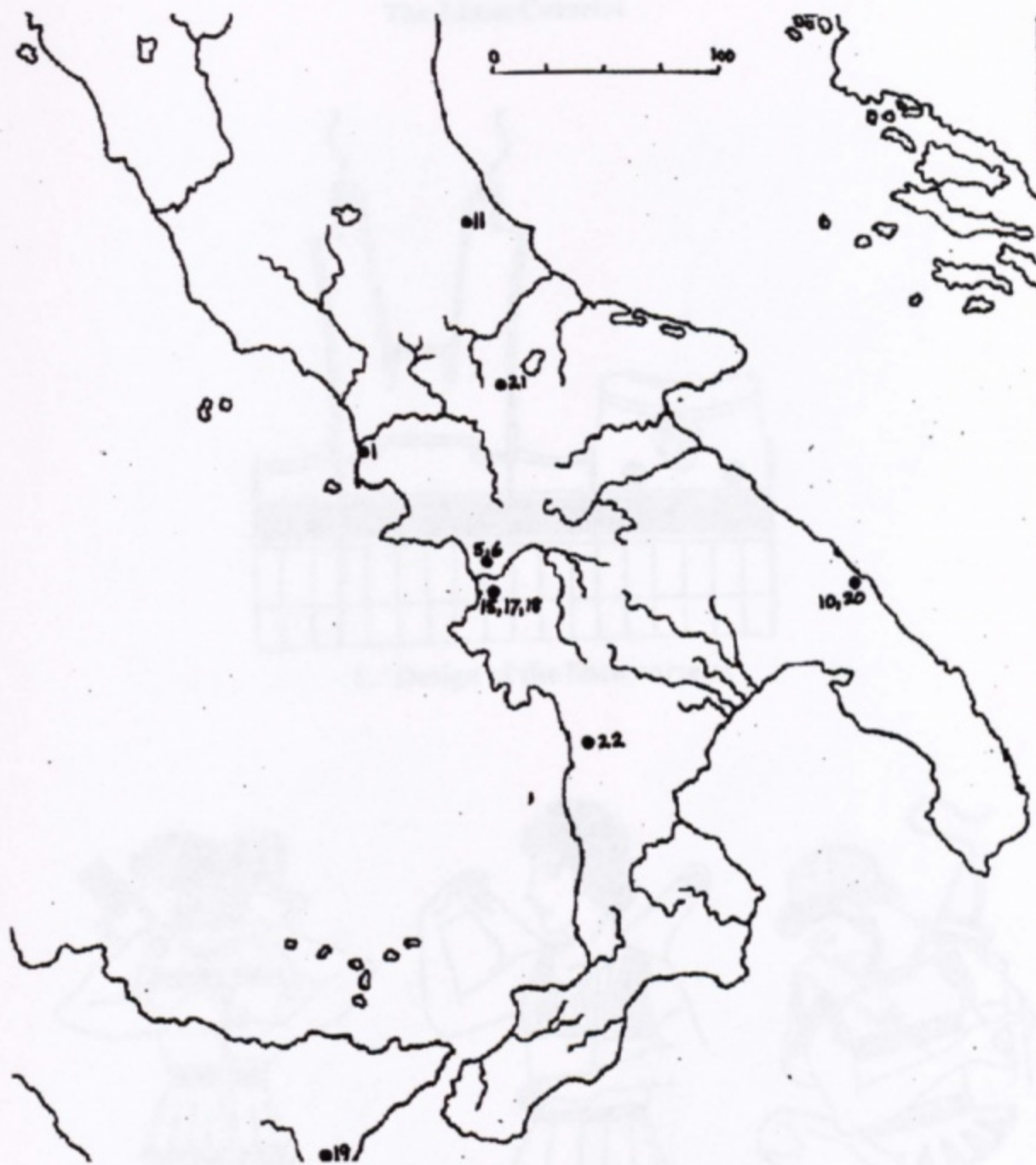
### The Italic Anatomical Cuirass



**Fig.31 Anatomical cuirasses: IC21 Campobasso, type 5 (Courtesy of Met. N.Y.), Laos, type 6 (M. Burns)**

*Fig.32 Distribution of Italic Anatomical Cuirasses*

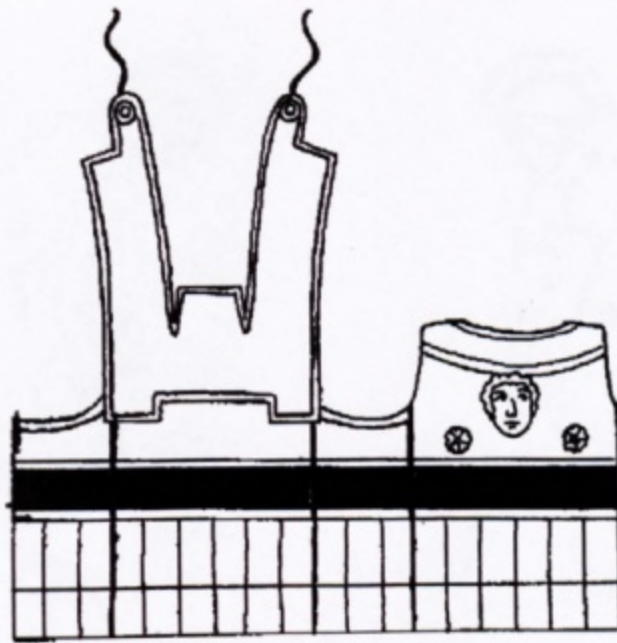
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**Fig.32 Distribution of Italic Anatomical Cuirasses**

1. Cumae, 5. Eboli, 6. Eboli, 10. Ruvo, 11. Spoltore, 15. Paestum, 17. Paestum  
18. Paestum, 19. Scordia, 20. Ruvo, 21. Campobasso, 22. Laos

### The Linen Corselet



1. Design of the linen corselet



2. Fastening side panel



3. Securing shoulder flap



4. Shoulder flaps

Fig.33 Donning the linen corselet as depicted in vase paintings



## Greaves



1. Rome, Attic 550-500



2. Naples Campanian 350-320



3. London, Campanian 350-320



4. Naples, Campanian 340-330

Fig.34 The donning of greaves as depicted in vase paintings



## Greaves



G1



G4



G6



G7

**Fig.35 Greaves: G1 Cumae, type 4 spiral, G4 Paestum, G6 Paestum, G7 Paestum all type 5 anatomical (all photos by M. Burns).**

## Greaves



G9



G11



G13



G18

**Fig.36 Greaves: G9 Ruvo, type 4 spiral (photo M. Burns), G11 Ginosa, type 4 spiral (photo M. Burns), G13 Eboli, type 6 smooth (photo M. Burns), G18 Pietrabbondante, type 6 smooth (*Sanniti* 2000).**



## Greaves



G19



G20

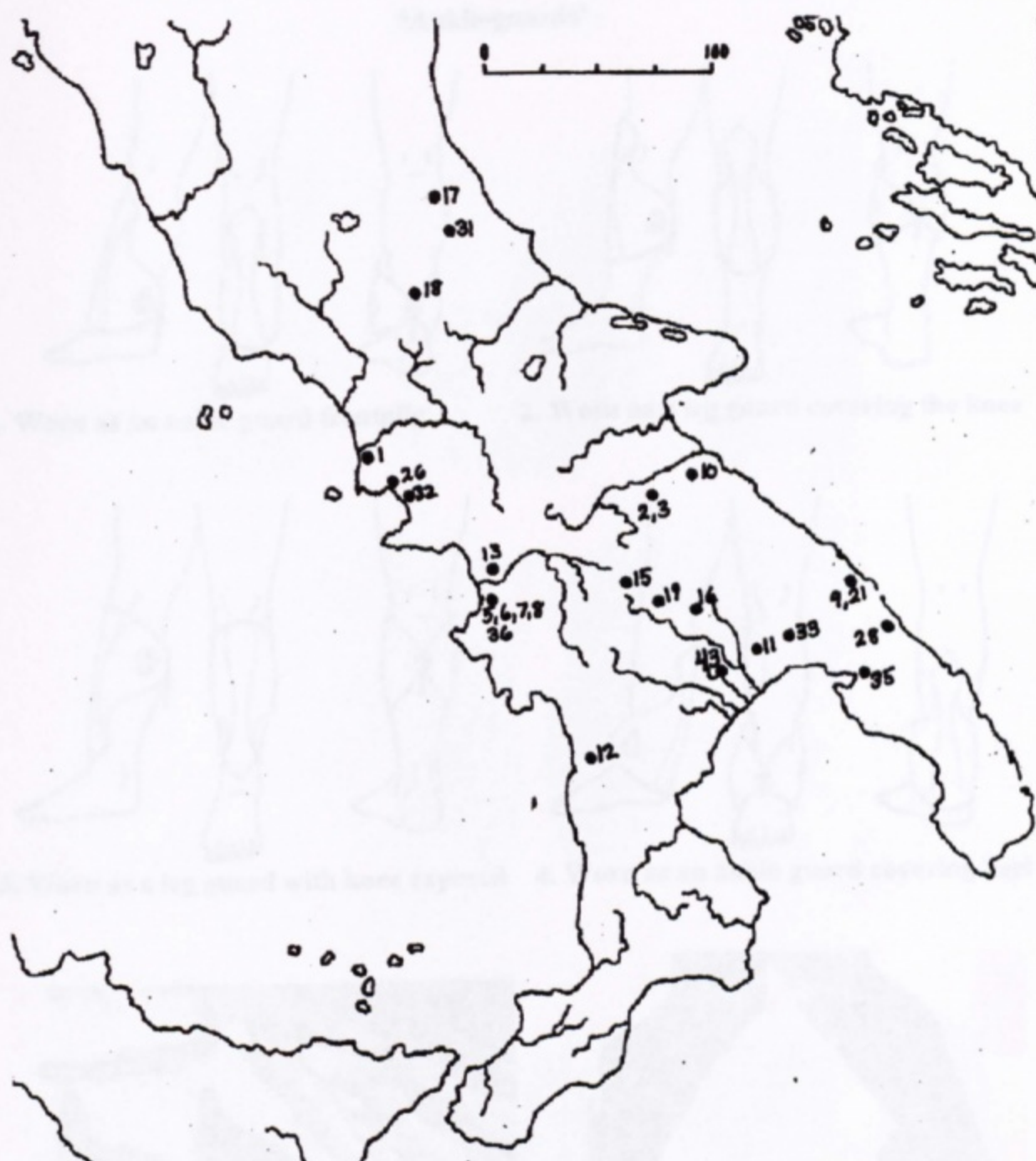


G22



G37

**Fig.37 Greaves: G19 S. Giorgio Lucano, type 3 calf-notch, G20 Apulia, type 4 spiral, G22 Southern Italy, type 3 calf-notch, G37 Ex-Guttmann coll., type 5 anatomical (all photos M. Burns).**



**Fig.38 Distribution of Greaves**

1. Cumae, 2. Lavello, 3. Lavello, 4-8. Paestum, 9. Ruvo, 10. Canosa, 11. Ginosa  
 12. Laos, 13. Eboli, 15. Braid di Vaglio, 16. Banzi, 17. Campovalano  
 18. Pietrabbondante, 19. S. Giorgio Lucano, 21. Ruvo, 26. Naples  
 28. Conversano, 31. Villamagna, 32. Herculaneum, 33. Montescaglioso  
 35. Montedoro, 36. Paestum, 38. Roccapide, 43. Pisticci



**'Ankle-guards'**



**1. Worn as an ankle guard frontally**

**2. Worn as a leg guard covering the knee**



**3. Worn as a leg guard with knee exposed**

**4. Worn as an ankle guard covering heel**



**5. Gravina, tomb 10 (Ciancio 2003: 30)**



**6. Displayed as ankle guards, Karlsruhe**

**Fig.39 Various ways in which the Italic leg-guards might have been used**

# Italic Leg-guards



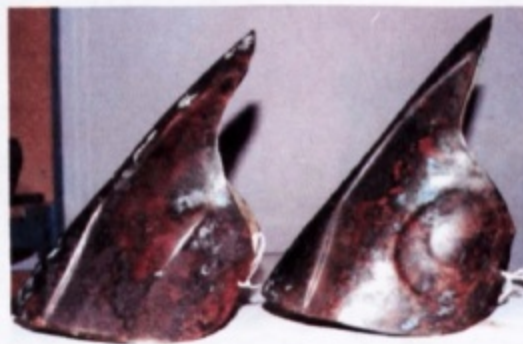
L1



L2



L3



**Fig.40 Leg-guards: L1 Cumae, long type (photo M. Burns), L2 Ruvo, short type (photo M. Burns), L3 ex-Guttmann coll., medium type (photo M. Burns).**



Italic Leg-guards



**Fig.41 Leg-guards: L5 ex-Guttmann coll., medium type (photo M. Burns), L6 ex-Guttmann coll., short type (photo M. Burns), L7 Southern Italy, long type (Jarva 1996), L14 Apulia, long type (Courtesy of Karlsruhe Landesmuseum).**







Fig.43 Distribution of Italic Leg Guards

1. Cumae, 2. Ruvo, 8. Rutigliano, 9. Rutigliano, 10-13. Lavello, 23. Friuli  
24. Ortona, 26. Gravina, 27. Gravina, 30. Banzi, 34. Chiuchiarì

Shin and Foot Guards



Fig.44 1. Shin guards, 10<sup>th</sup> century (De Caro 1996: 163). 2. Footguards, Ruvo (photo M. Burns).



# Belt Clasps

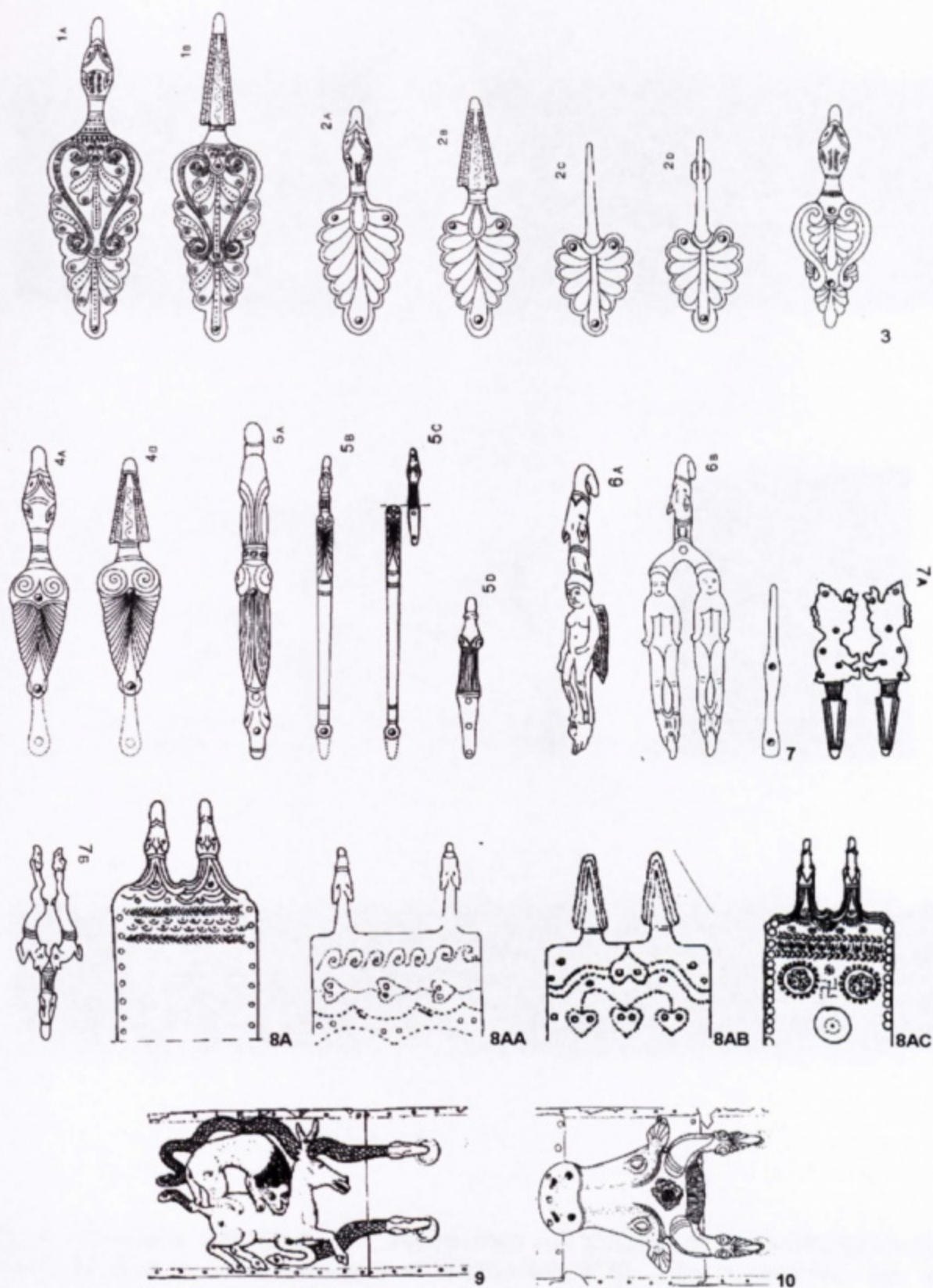


Fig.45 Typology of bronze belt clasps (after Suano 1986)

## Bronze Belts



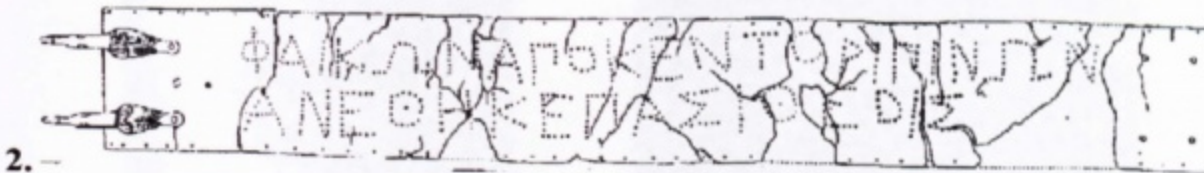
**Fig.46** Decorated belt bands: 1-2. Hippocamp and animals B112, ex-Guttmann coll. (photo M. Burns). 3. Hippocamp and dolphin B40, B.M. (after Suano 1986: 20). 4. Boar B122, Ginosa (photo M. Burns). 5. Starburst and chariot wheel motifs B121 (Taranto 1994).



### Bronze Belts



1.



2.



3.



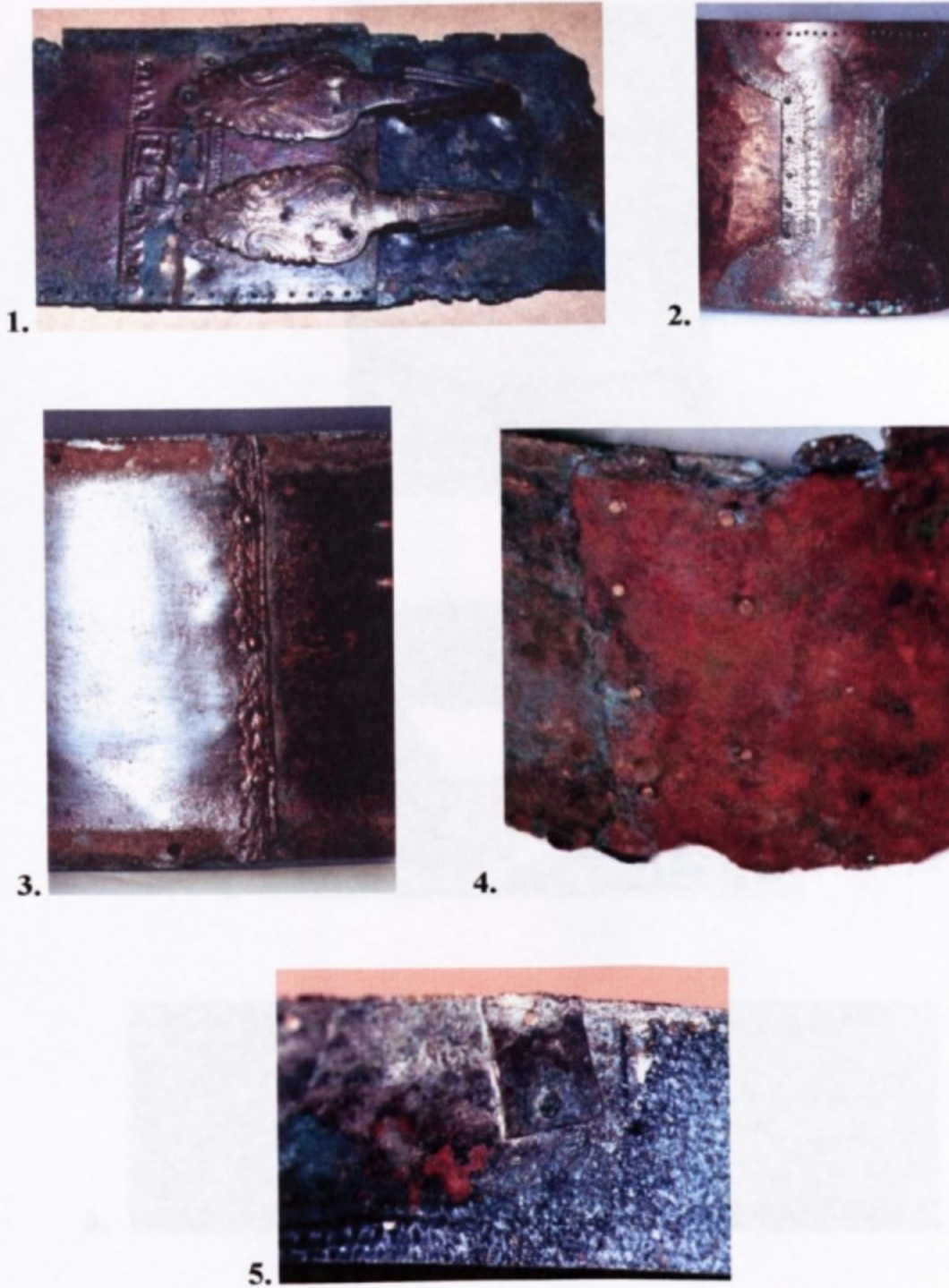
4.



5.

**Fig.47 The significance of the belt: 1. Neriad with belt and muscle cuirass from Apulian vase (Bottinii 1993: 225). 2. Belt dedicated as a trophy, Palike (Tagliamonte 1993: Tav.X). 3. Warrior with belt and tunic trophy, Cumae T.125 (photo M. Burns). 4. Warrior with belt and shield trophy, Paestum T.12 Andriuolo (photo M. Burns). 5. Warrior with belt trophy, Nola (photo M. Burns).**

### Bronze Belts



**Fig.48 Belt repairs: 1. Decorative plaque with swastika B4, Ashmolean. 2. I-shaped plaque covering cracks B113, ex-Guttmann coll. 3. Decorated join and rivets B109, ex-Guttmann coll. 4. Double set of rivets joining two sections B1, Cumae. 5. Scrap piece of bronze riveted over crack B109, ex-Guttmann coll. (all photos M. Burns).**

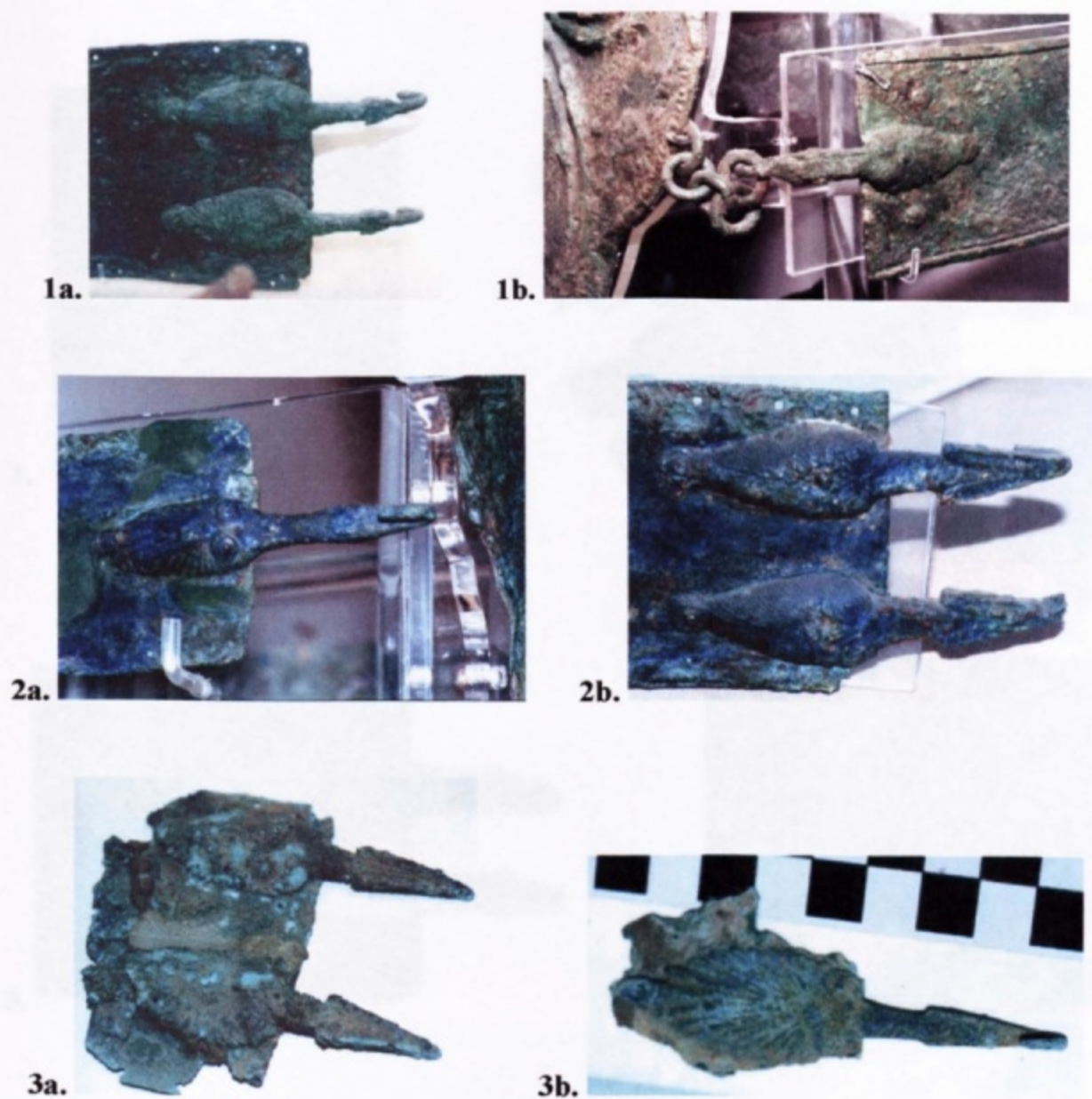


### Bronze Belts



**Fig.49** Antecedents of the south Italic belt: 1. Warrior of Teano statue (Colonna 1997). 2. 8<sup>th</sup> century single-clasp belt B119, Pontecagnano (photo M. Burns). 3. 6<sup>th</sup> century wire clasp belt B136, Troccola (photo M. Burns).

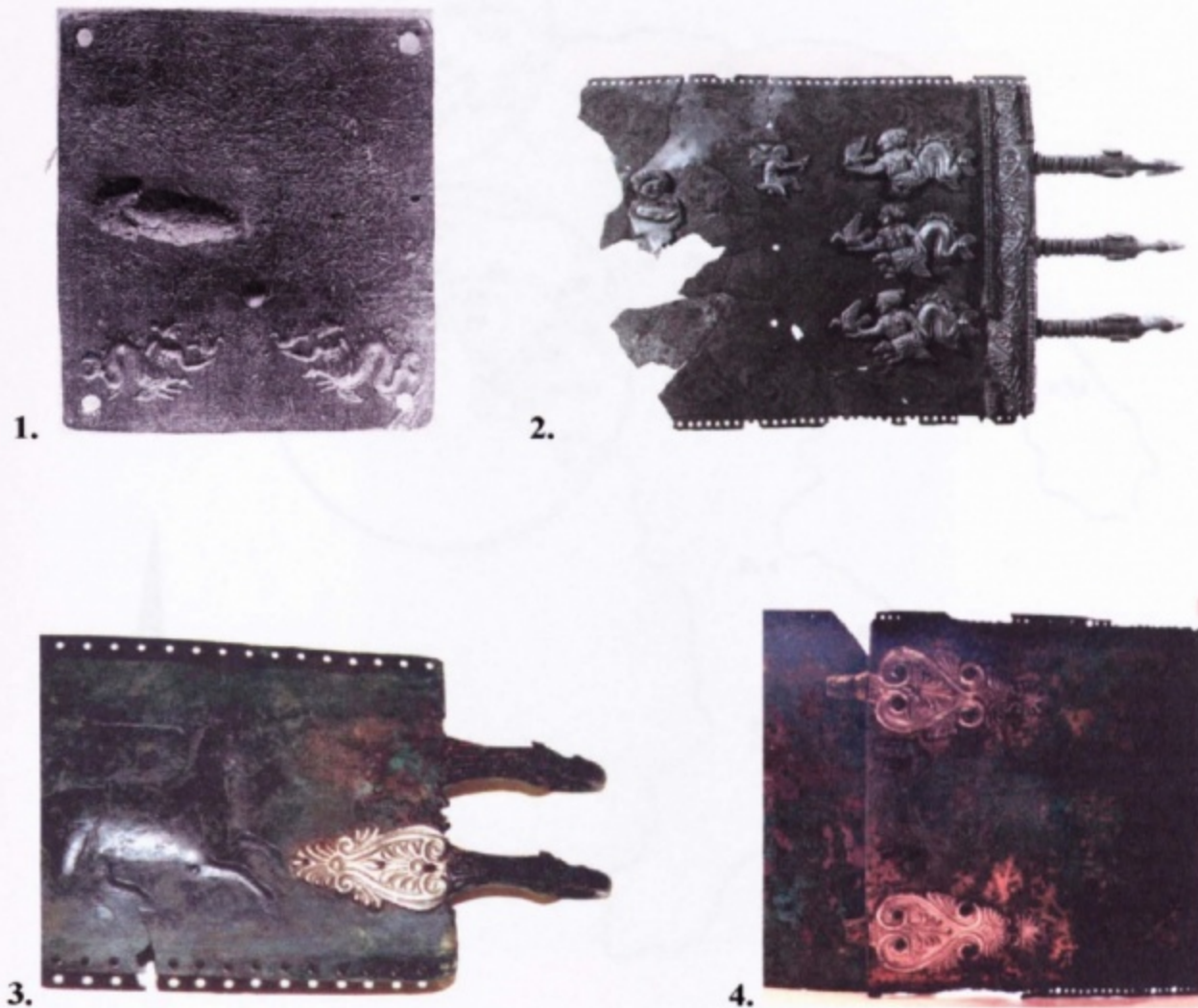
### Belt and Cuirass Clasps



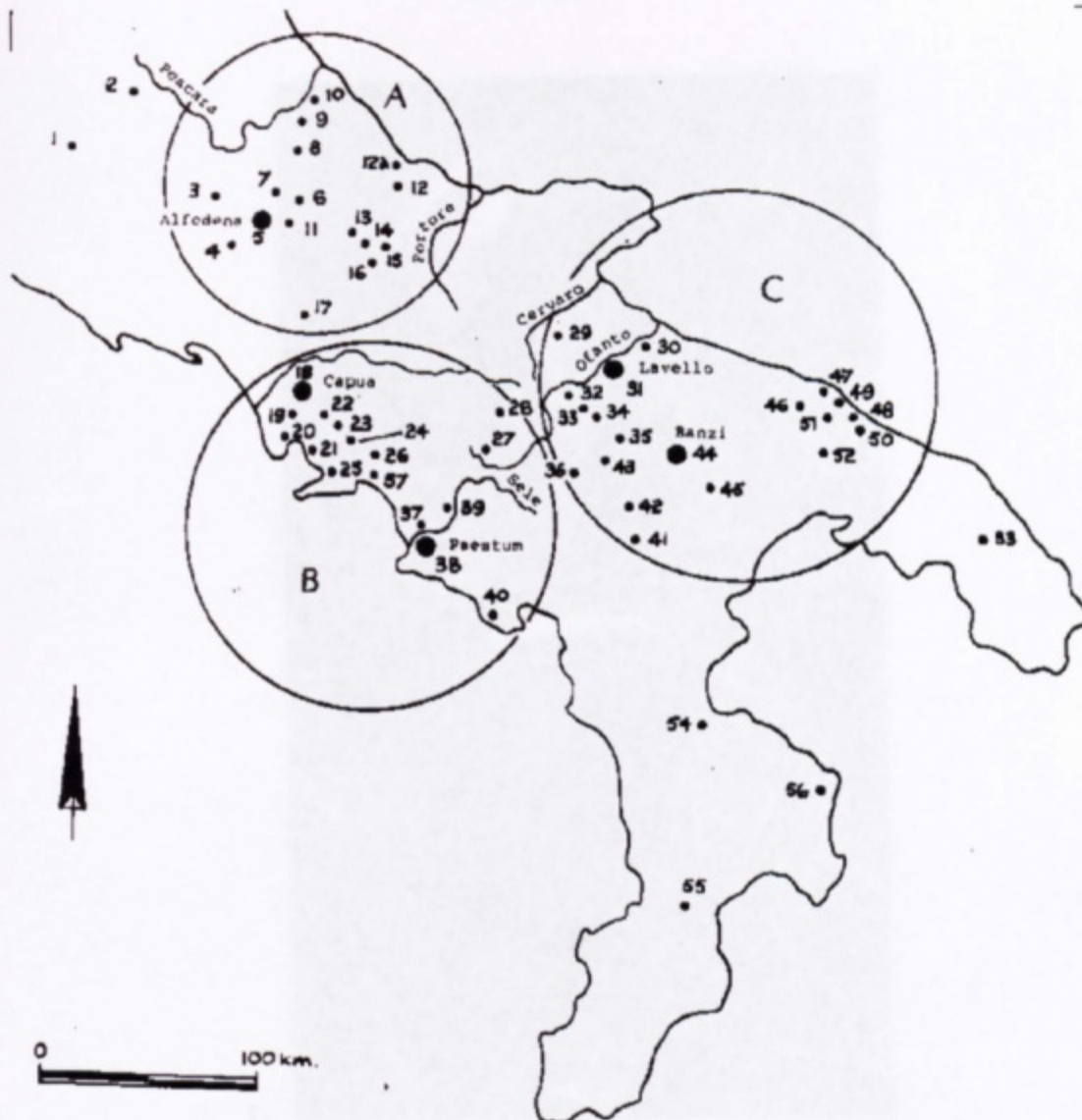
**Fig.50 Paestan belt and triple-disc cuirass clasps: 1a-1b Tomb 174 Gaudio (belt B69, cuirass T24), 2a-2b Tomb 197 Gaudio (belt B70, cuirass T21), 3a-3b Tomb 110 S. Venera (belt B61, cuirass T22). All photos M. Burns.**



## Bronze belts



**Fig.51 Manufacture of bronze belts:** 1. Bronze matrix for stamping decorative plaques of Scylla figures (Yu 1994). 2. Three silver Scylla figures B168, Laos (Guzzo 1992). 3. Silver palmette plaque and pegasus B39, British Museum (photo M. Burns). 4. Pair of silver palmette plaques B158, Karlsruhe Landesmuseum (photo M. Burns).

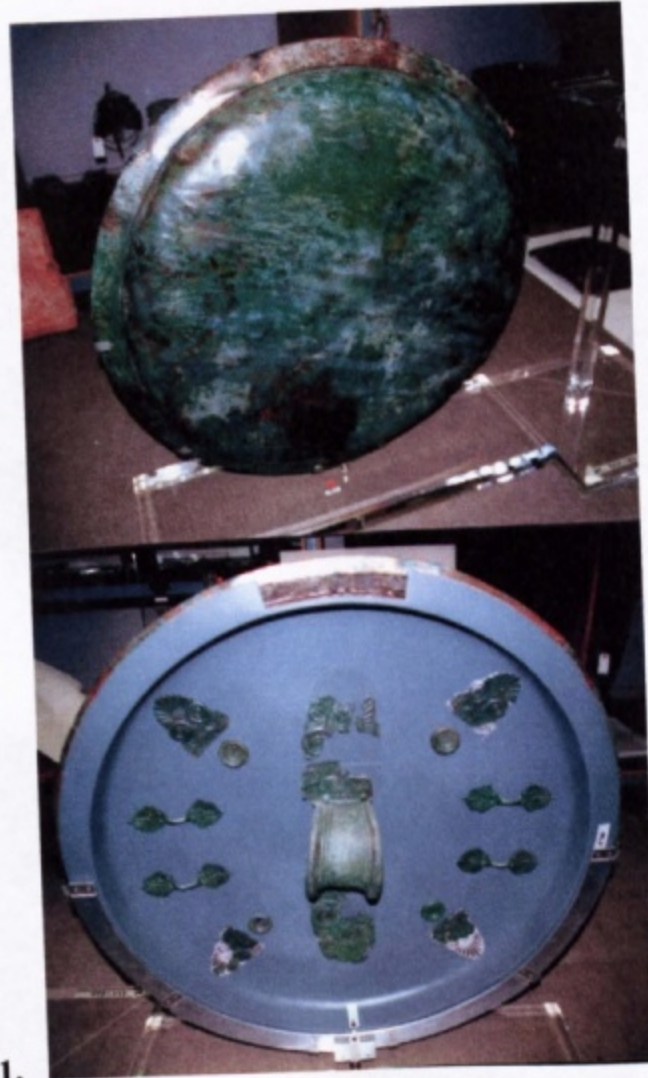


**Fig.52 Distribution of belt clasps with three main concentrations (Suano 1986: 30).**

**Key to sites on map:** 1.Carsoli 2.L'Aquila 3.V.Barreea 4.Atina 5.Alfedena  
 6.Pietrabbondante 7.Castel di Sangro 8.Lama dei Paeligni 9.Manoppello 10.Chieti  
 11.Forlì del Sannio 12.Larino 13.Oratino 14.Ferrazzano 15.Ielsi 16.Cercemaggiore  
 17.Alife 18.Capua 19.Cumae 20.Pozzuoli 21.Napoli 22.S. Agata 23.Saviano 24.Nola  
 25.Pompeii 26.Sarno 27.Cairano 28.V. d'Ansanto 29.Ortona 30.Canosa 31.Lavello  
 32.Leonessa 33.Pisciolo 34.Melfi 35.Ripa 36.Ruvo d. Monte 37.Altavilla 38.Paestum  
 39.Oliveto 40.Palinuro 41.Abriola 42.Potenza 43.Atella 44.Banzi 45.Irsina 46.Ruvo  
 47.Giovinazzo 48.Bari 49.Ceglie del Campo 50.Conversano 51.Bitonto 52.Giola del  
 Colle 53.Cavallino 54.Torre del Mordillo 55.Tiriolo 56.Ciro Marina 57.S. Angelo di  
 Ogliara



### The Aspis



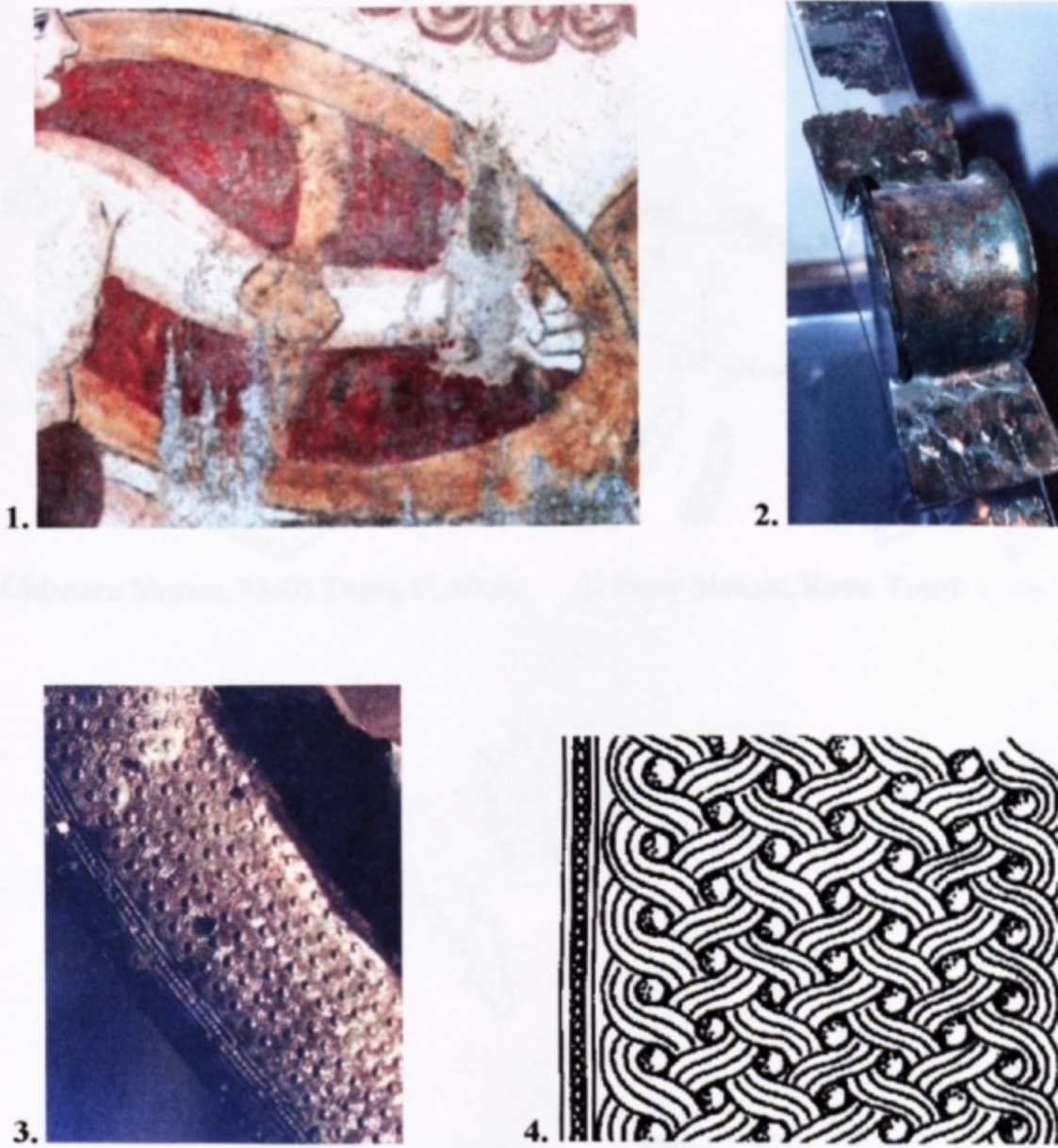
1.



2.

**Fig.53** The aspis shield: 1. Front and inside views of the aspis, ex-Guttman coll. (photo M. Burns). 2. Close-up of rim interior, showing bronze folded over the wooden core, (photo M. Burns).

### The Aspis



**Fig.54 Features of the aspis: 1. Interior of aspis showing the porpax from tomb X Laghetto, Paestum (Pontrandolfo and Rouveret 1992:). 2. Porpax Chiaromonte (photo M. Burns). 3. Guilloche cable pattern on rim of aspis, Chiaromonte (photo M. Burns). 4. Illustration of guilloche pattern (M. Burns).**



### Shield Blazons



1. Chimera blazon, Melfi Tomb F, 60cm



2. Boar blazon, Ruvo Tomb 1, 48.5cm



3. Charging cavalryman, Swiss collection, 44.5cm long

**Fig.55 South Italic bronze shield blazons**

## Variant shield types

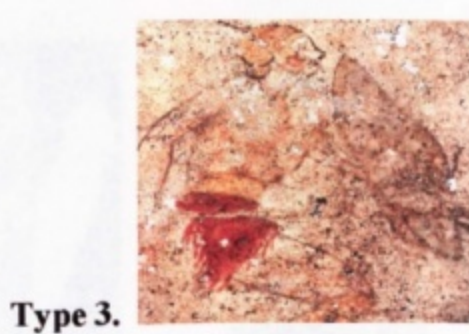
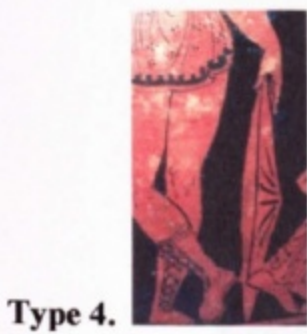
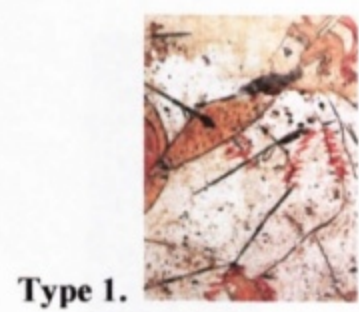
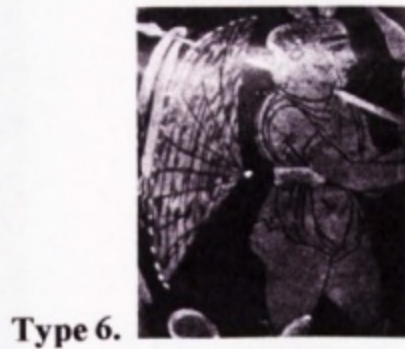


Fig.56 Variant type shields from representational sources, types 1-6



## The Italic *Scutum*



**Fig.57 The scutum from representational sources no.1-9**

## The Ephaptis and Pelte

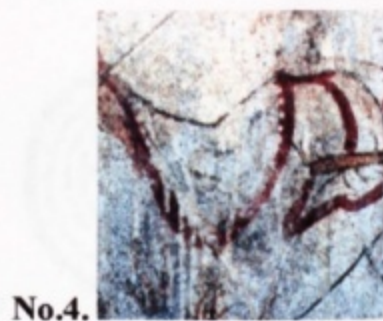
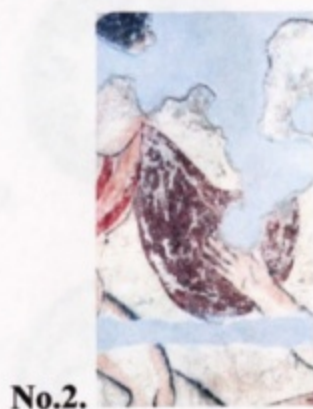


Fig.58 The ephaptis and pelte from representational sources no.1-9



## Shield Blazons

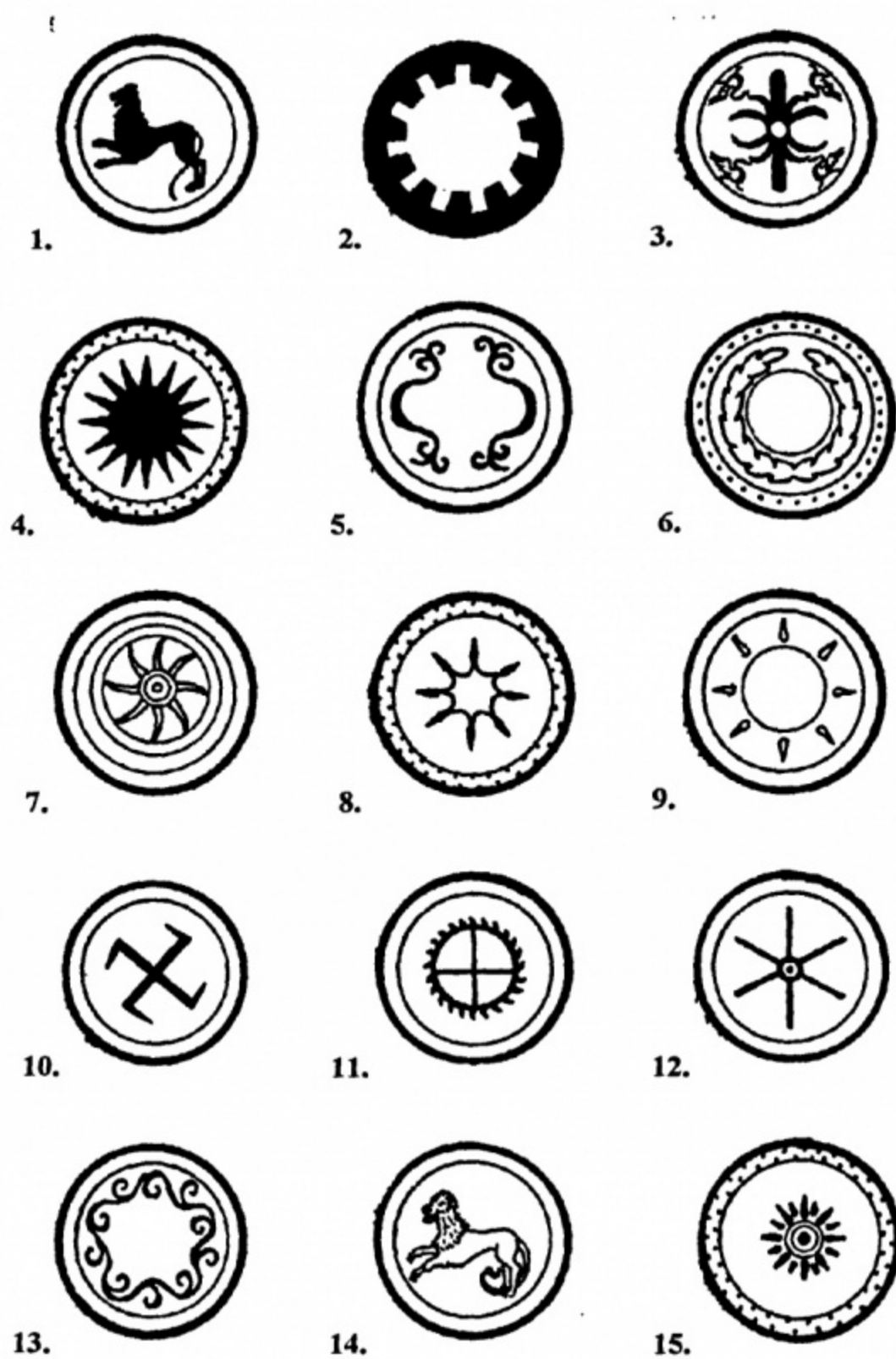


Fig.59 Paestan shield blazons as depicted in tomb paintings

## Shield Blazons

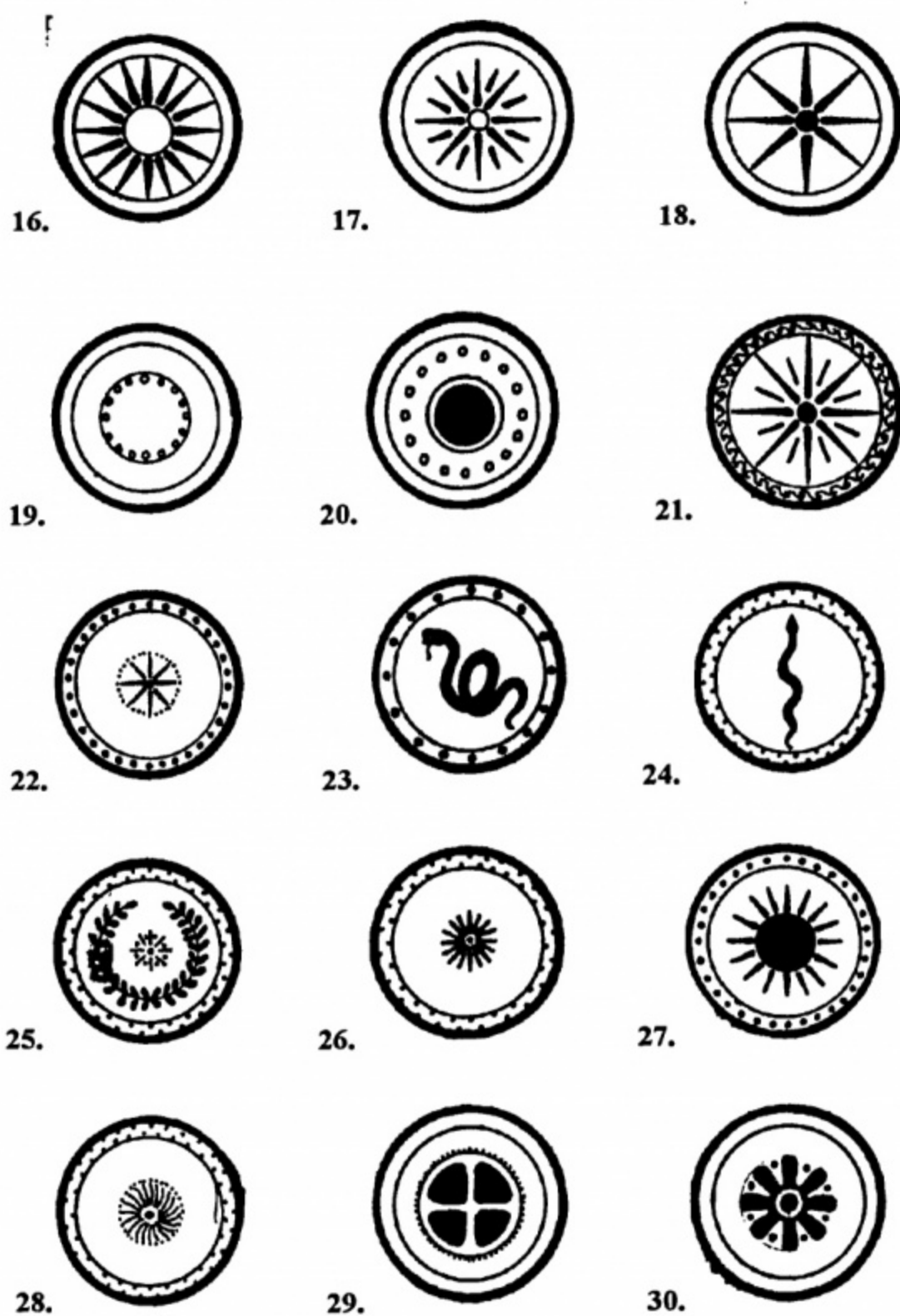
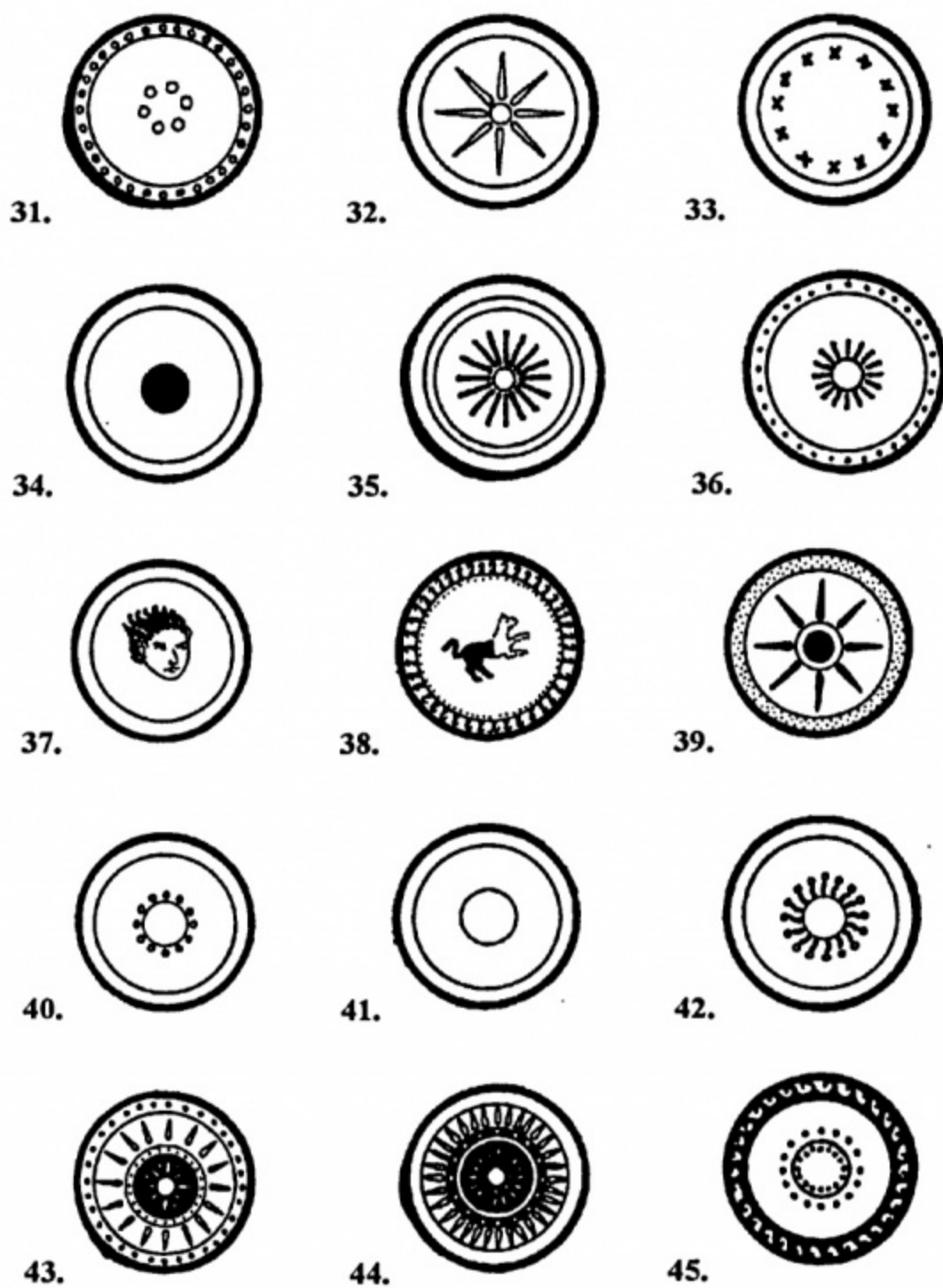


Fig.60 Lucanian shield blazons as depicted on red-figure vases

## Shield Blazons



**Fig.61** Campanian shield blazons as depicted on red-figure vases

## Shield Blazons

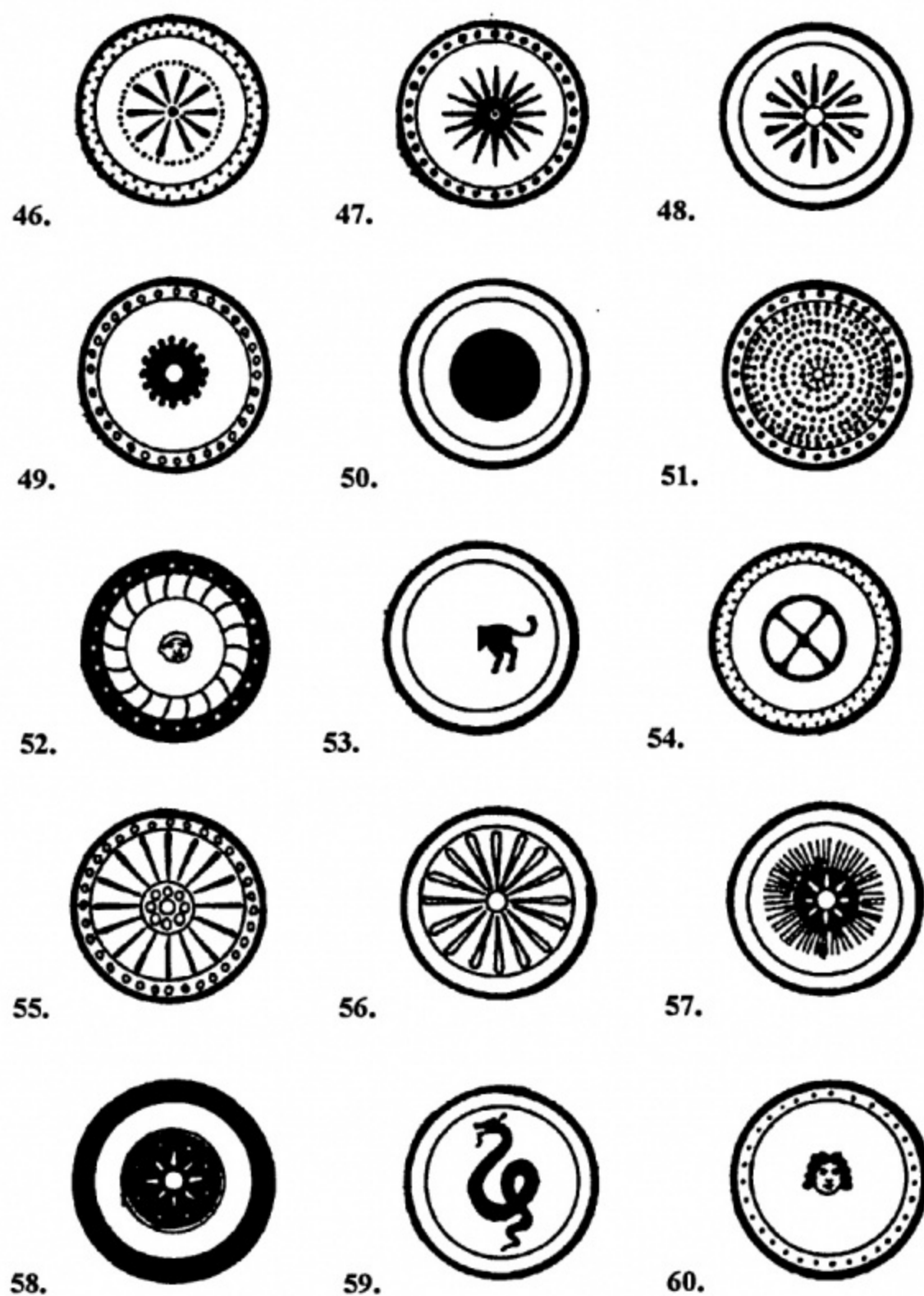
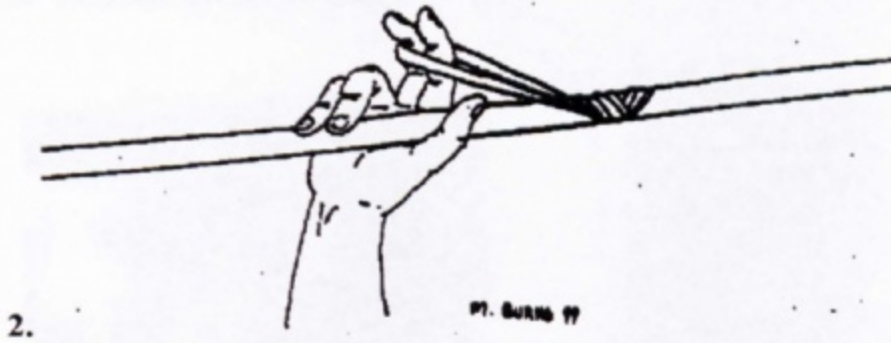


Fig.62 Apulian shield blazons as depicted on red-figure vases





**Fig.63 The amentum and fighting stance: 1. Javelin with amentum (B.M. F154). 2. Method of holding the javelin with amentum. 3-5. Classic south Italic fighting stance poised to cast javelin (all photos M. Burns).**

# Weaponry



**Fig.64 The light javelin and heavy thrusting spear: 1. Warrior about to cast a light javelin, B.M. F158 (photo M. Burns). 2. Light javelin heads JS8-10, ex-Guttmann coll. 3. Minerva holding thrusting spear, B.M. F279 (photo M. Burns). 4. Thrusting spearhead JS87, Camerelle (photo M. Burns).**



# Weaponry



1.



2.



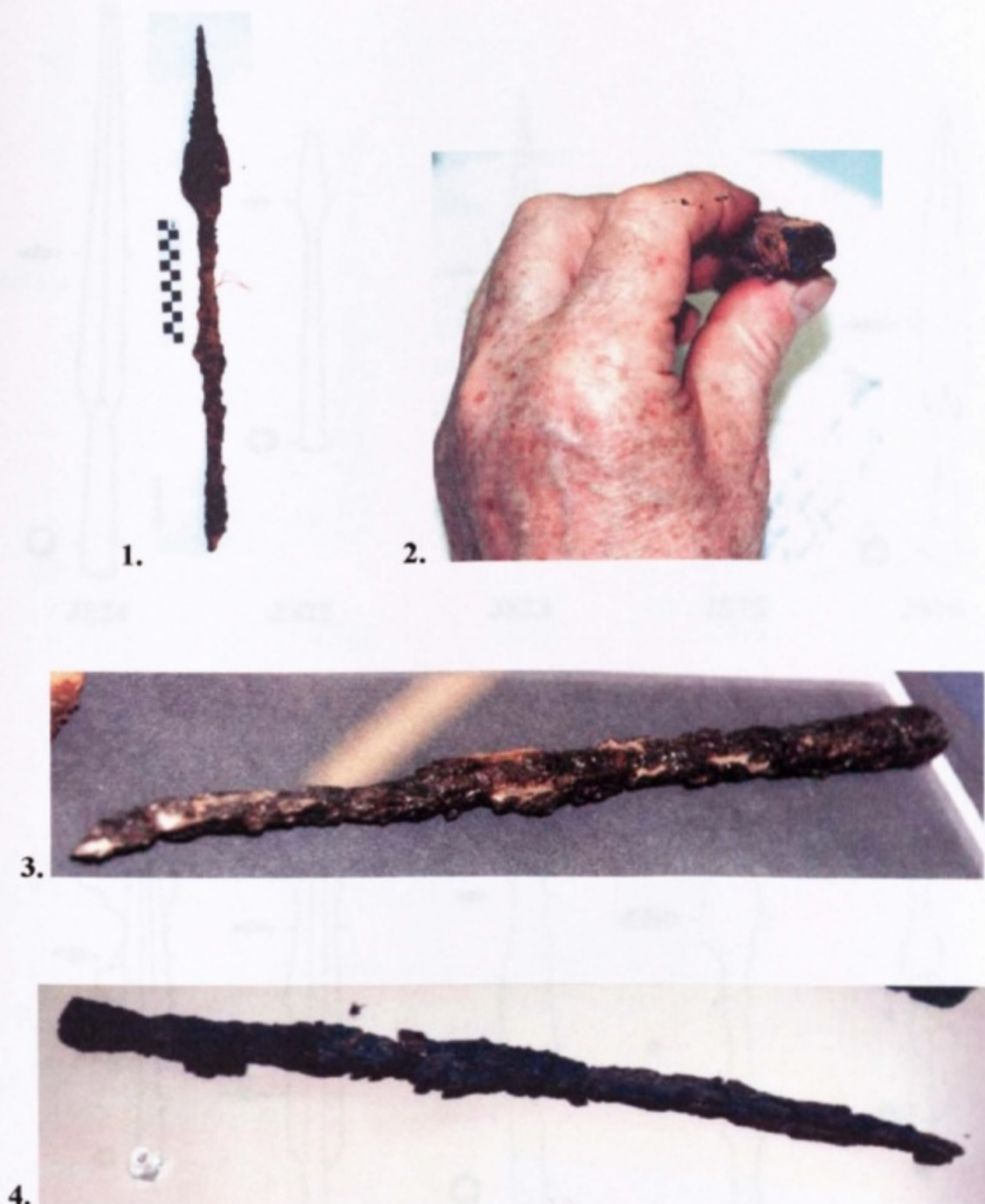
3.



4.

**Fig.65 Dual-purpose spears: 1. Warrior with slender-bladed, dual-purpose spear, Karlsruhe. 2. slender dual-purpose spear JS32, Paestum. 3. Warrior with broad-bladed, dual-purpose spear, B.M. F200. 4. Broad-bladed dual-purpose spear JS38 and pilum JS39, Paestum. (all photos M. Burns).**

## Weaponry



**Fig.66 The south Italic pilum: 1. Pilum JS36, Tomb 110 Andriuolo, Paestum. 2. Square cross-section of JS36. 3. Pilum JS83, Tomb 9 Carife. 4. Pilum JS88, Tomb 16 S. Prisco, Capua. (all photos M. Burns).**



## Weaponry

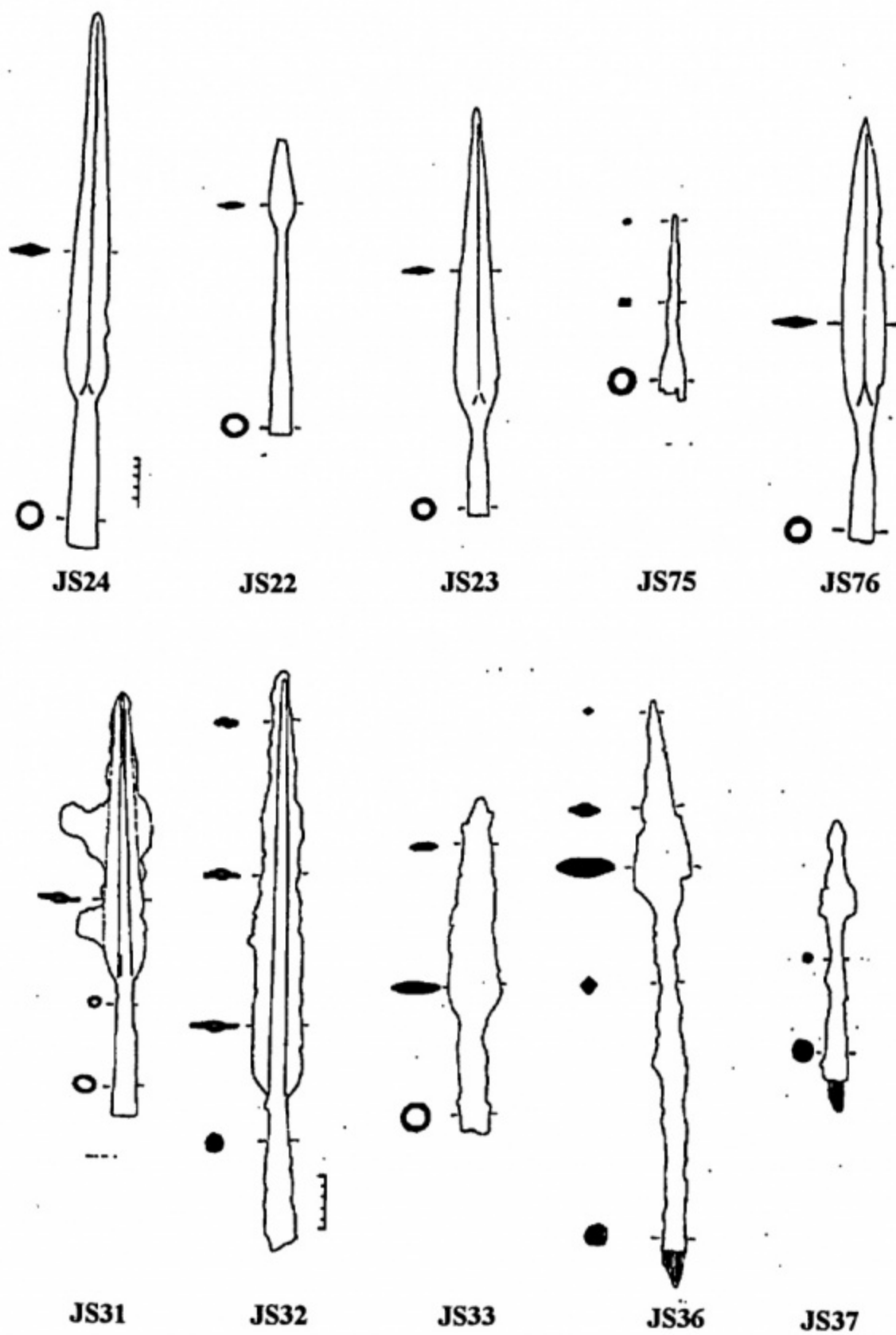


Fig.67 South Italic javelins and spears

## Weaponry

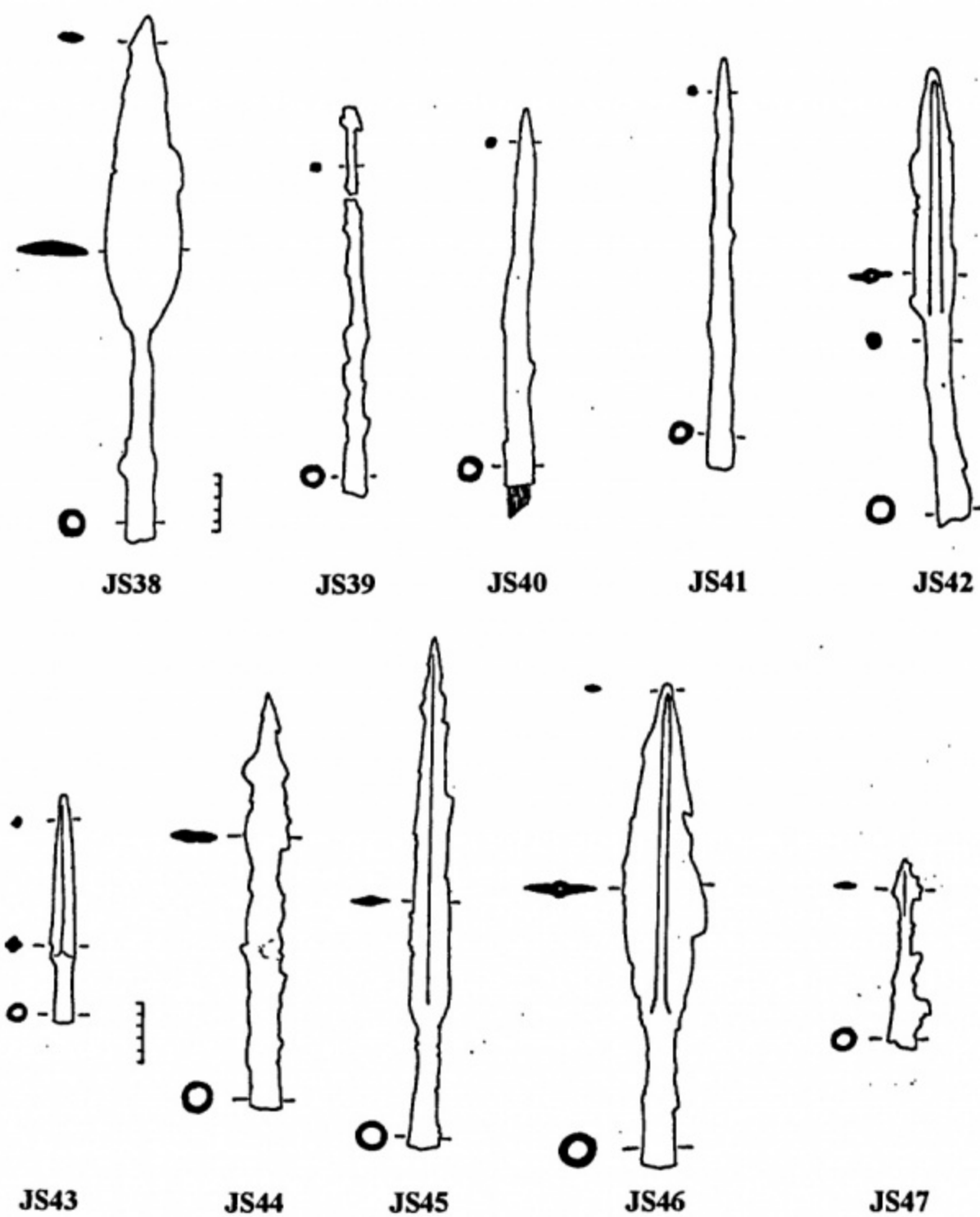
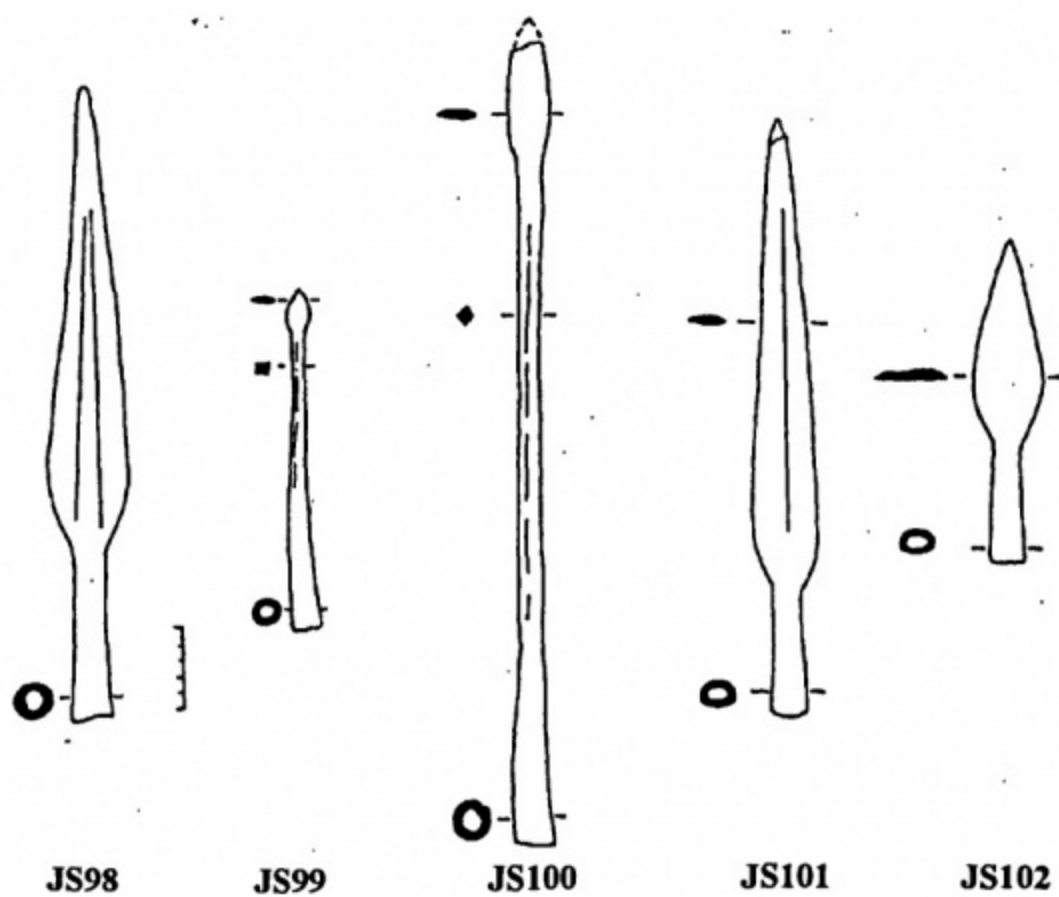


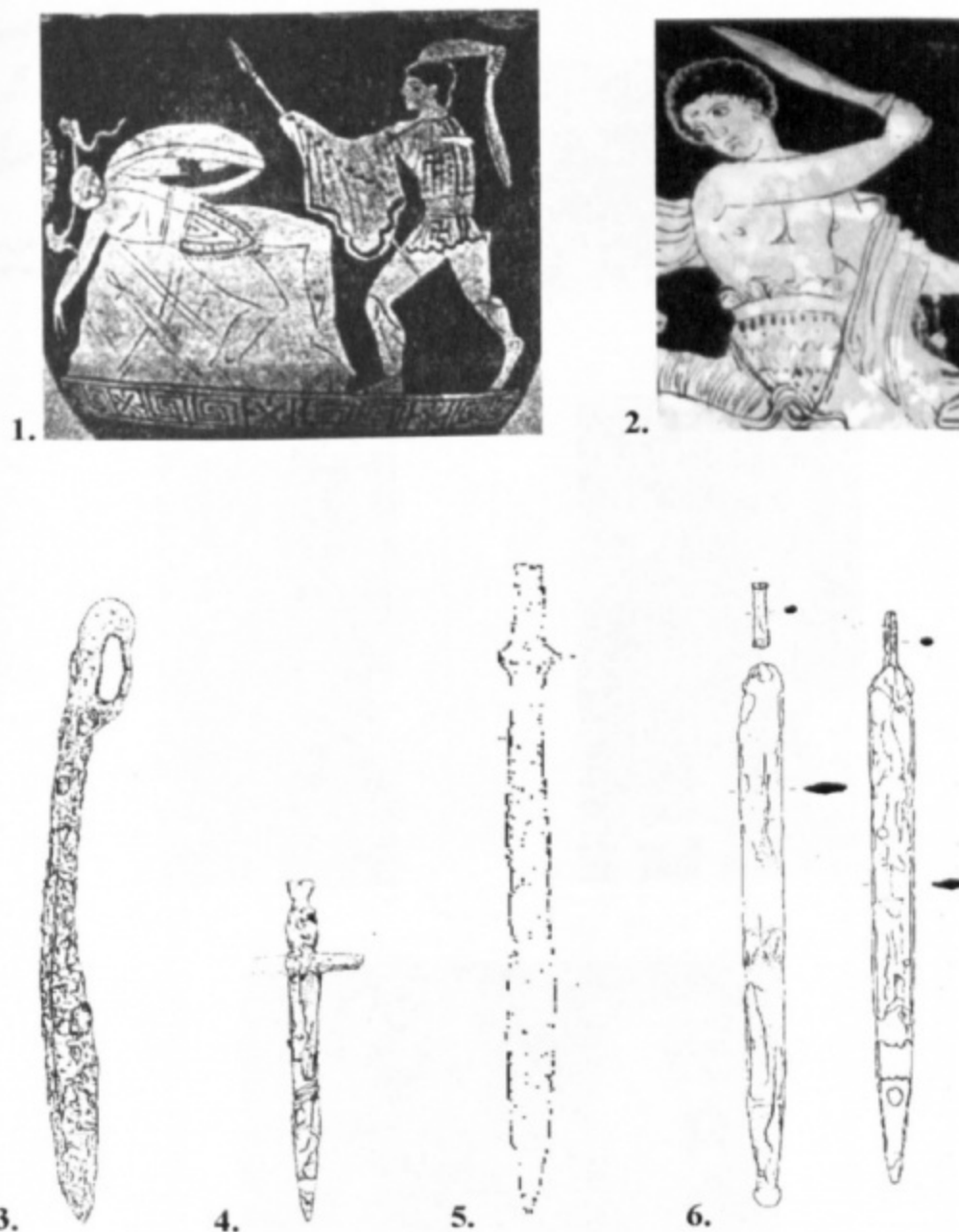
Fig.68 South Italic javelins and spears

## Weaponry



**Fig.69** South Italic javelins and spears

## Weaponry



**Fig.70** South Italic swords: 1-2. Curved slashing sword as depicted on Apulian vases (Courtesy of M.F.A. Boston). 3. Curved sword SA2, tomb 174 Gaudio, Paestum (after Cipriani and Longo 1996). 4. Short sword SA9, tomb 17/71 Crucina (after Bottini 1993). 5. Long sword SA21, tomb 97 Campovalano (after *Sanniti* 2000). 6. Gladius Hispaniensis? SA16-17, Pietrabbondante (Sannio 1980).



## Weaponry



**Fig.71 The south Italic axe: 1. Axe-head SA35, Alfedena tomb 67 (Sannio 1980: Tav.21). 2. Axe-head SA34, Pontecagnano (Photo M. Burns). 3-5. Warriors with axes from Campanian vases 350-320 (3, 5. photos M. Burns, 4. Courtesy of the J. Paul Getty Museum).**

## Tunic Patterns



no.1 370-360



no.2 380-370



no.3 360-350



no.4 360-350



no.5 350-340



no.6 350-340



no.7 350-340



no.8 340-330



no.9 340-330

Fig.72 South Italic tunic patterns no.1-9



## Tunic Patterns



no.10 340-330



no.11 340-330



no.12 330-320



no.13 310-290



no.14 310-290



no.15 380-370



no.16 380-370



no.17 360-350



no.18 360-350

Fig.73 South Italic tunic patterns no.10-18

## Tunic Patterns



no.19 360-350



no.20 360-350



no.21 350-340



no.22 340-330



no.23 340-330



no.24 340-330



no.25 330-320



no.26 340-330



no.27 330-320

Fig.74 South Italic tunic patterns no.19-27



## Tunic Patterns



no.28 330-320



no.29 320-310



no.30 310-300



no.31 340-330



no.32 340-330



no.33 330-320



no.34 330-320



no.35 330-320



no.36 330-310

Fig.75 South italic tunic patterns no.28-36

## Tunic Patterns



no.37 320-310



no.38 330-310



no.39 330-310



no.40 330-310



no.41 330-310



no.42 330-310



no.43 330-310



no.44 330-310



no.45 330-310

Fig.76 South Italic tunic patterns no.37-45



## Tunic Patterns



no.46 330-310



no.47 330-310



no.48 350-340



no.49 350-320



no.50 350-320



no.51 350-320



no. 52 350-340



no.53 350-330



no.54 350-330

Fig.77 South Italic tunic patterns no.46-54

## Tunic Patterns



no.55 350-330



no.56 340-330



no.57 340-330



no.58 340-330



no.59 340-330



no.60 340-330



no.61 370-350



no.62 370-350



no.63 410-400

Fig.78 South Italic tunic patterns no.55-63



## Tunic Patterns



no.64 410-400



no.65 370-350



no.66 370-350



no.67 360-340



no.68 360-340



no.69 350-330



no.70 350-330



no.71 350-330



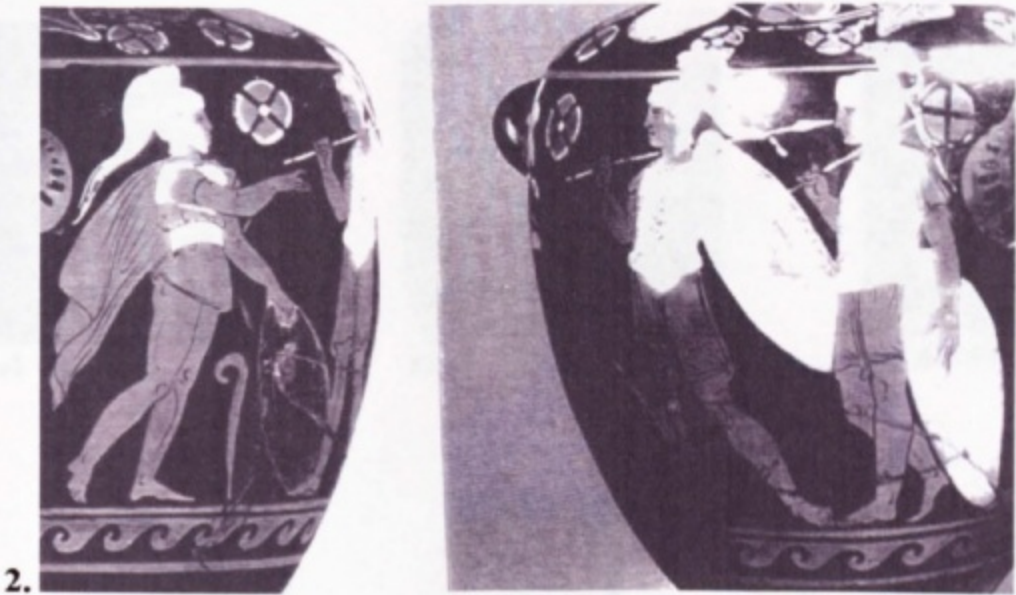
no.72 340-320

Fig.79 South Italic tunic patterns no.64-72

**Tunic Patterns**



**no.73 330-310**



**Fig.80 South Italic tunic pattern no.73, 2. Campanian vase showing south Italic and possible Roman warriors 330-310 (Courtesy of Museum of Fine Arts, Boston).**



## The Perizoma



no.1 400-380



no.2 370-350



no.3 380-360



no.4 340-330



no.5 330-320



no.6 400-370



no.7 360-320



no.8 340-330



no.9 370-350

**Fig.81 The perizoma as depicted in south Italic red-figure vases, no.1-9**

## The Perizoma



no.10 500-400



no.11 350-340



no.12 350-340



no.13 350-330



no.14 320-280

**Fig.82 The perizoma as depicted in tomb paintings and statue, no.10-14**



# Tomb Paintings



WP1



WP2

**Fig.83 Tomb paintings: WP1. Tomb 24/1971 Andriuolo, Paestum 380-370. WP2. Tomb 53 Andriuolo, Paestum 350-340 (photos M. Burns).**

# Tomb Paintings



WP3



WP3a

Fig.84 Tomb paintings: WP3-3a. Tomb 58 Andriuolo, Paestum 340-330 (photo M. Burns).



# Tomb Paintings



WP7



WP14

**Fig.85 Tomb paintings: WP7 Tomb 20 Andriuolo, Paestum 310-300. WP14 Tomb 12 Andriuolo, Paestum 380-370 (photos M. Burns).**

# Tomb Paintings

WP20



WP20a



WP22



**Fig.86 Tomb paintings: WP20-20a Tomb 114 Andriuolo, Paestum 330-320. WP22 Tomb 271/1976 Arcioni, Paestum 380-370 (photos M. Burns).**



# Tomb Paintings



WP23



WP23a



WP24

**Fig.87 Tomb paintings: WP23-23a Tomb 1/1990 Arcioni, Paestum 360-350. WP24 Tomb 11/1967 C.V. di Agropoli, Paestum 360-350. (photos M. Burns).**

## Tomb Paintings

WP30



WP48



WP48a



WP48b



**Fig.88 Tomb paintings: WP30 Tomb X Laghetto, Paestum 350-340. WP48a-b Procession tomb, Nola 330-310. (photos M. Burns).**



# Tomb Paintings



WP49



WP49a



WP50

**Fig.89 Tomb paintings: WP49-49a Tomb of the Cavalrymen, Nola 330-310. WP50 Tomb 16 S. Prisco, Capua 310-300. (photos M. Burns).**