LATE ANTIQUE, MIGRATION PERIOD AND EARLY BYZANTINE

GARNET CLOISONNÉ ORNAMENTS

ORIGINS, STYLES AND WORKSHOP PRODUCTION

Vol. I
Text and Catalogue

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ABSTRACT

The thesis proposes a classification of gold and garnet cloisonné ornaments based on stylistic and technological features. These objects reflect Late Antique/Early Byzantine decorative and manufacturing traditions.

Flat garnet plates originate with one class of ring-stone intaglios from the Late Hellenistic and Imperial Roman periods. Garnet plates were first set on jewellery at this same time. Early inlaid ornaments are characterised by a mixture of western and eastern elements shared along the eastern trade routes.

The first examples of true garnet cloisonné are preserved in Western Asia and Soviet Georgia (ancient Iberia). Although excavated with coins, accurate dating of the latter finds remains difficult. Some objects may be as early as the late third century while others parallel ornaments in southern Russia and Europe which are datable to the late fourth and fifth centuries AD.

Cloisonné ornaments at Kerch in the Crimea incorporate standardised geometric plate shapes. These preserve Graeco-Roman traditions of decoration and lapidary technology, and may have been produced under official Roman auspices. Ornaments on both sides of the Pontus, therefore, reflect the range of Late Antique cloisonné production.

Standardised plates, sometimes set with cabochon bars in proportional patterns, characterise sword fittings deposited in Hunnic Period contexts. Their distribution reflects burial customs, as the garnet cloisonné mounts themselves represent Late Antique/Early Byzantine traditions. These official or urban styles stimulated a range of regional imitations.

One group of cloisonné ornaments, Christian in character and worn predominantly by women, replicates classical mosaic floor patterns. These share features with other examples of Early Byzantine jewellery produced in urban centres for both barbarian and Roman clients. In the second half of the fifth century, a contemporary style appears on male weaponry and horse harness preserved in contexts which suggest their owners held official positions in the Early Byzantine militia. The mixture of barbarian and Roman elements within this style characterises Early Byzantine cloisonné from sixth-century European and Mediterranean contexts.
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INTRODUCTION

The goals of this study of garnet cloisonné ornaments are threefold. First it aims to provide a typology of gold and garnet cloisonné based upon a stylistic and technological classification of the primary ornaments. The terminology used for this typology is descriptive, based upon both the appearance of the various inlaid patterns and the methods of assembling the components. The text is organised along the lines of current relative chronologies, but the groupings provide a basis for reference outside the fluid and challenging time frames of the period.

Secondly, the discussion seeks to place those ornaments in their proper relationship to Late Roman and Late Antique lapidary and decorative traditions. Garnet cloisonné may be seen to derive from intaglio shapes and sizes, both of which influenced the patterns of some stylistic traditions. It is argued that it is these traditions, adapted to the military equipment and modified by the needs of the barbarised Roman army, which reverberate throughout the fifth century. The thesis does not seek to establish which of the various Germanic, Sarmatian, Alanic and Hunnic tribes wore these ornaments, but rather considers how barbarians might have acquired them and under what circumstances they might have been made.

Finally, the thesis attempts to distinguish regionally-produced ornaments, adapted to local needs, from those which reflect more closely the manufacturing traditions of Late Antique/Early Byzantine cloisonné. This latter, classicising tradition can only be traced indirectly, as the ornaments involved are rarely found in anything other than barbarian contexts. Certain features, however, such as standardised garnet plates and cabochon stones in proportional designs, may be diagnostic of small-scale industrial production in urban workshops. Other cloisonné objects, found associated with well-known classes of Roman donatives
such as silver vessels and crossbow brooches, may provide evidence of imperial gifting and hence manufacture of ornaments within the officially-controlled workshops of the Roman Empire.

The text and catalogue are presented in the form of a chronological discussion and description of garnet-inlaid ornaments from the first century AD through to the third quarter of the fifth century AD. Any stopping point in a line of continuous development is, of necessity, arbitrary. The analysis here does not, except by way of reference, include the ornaments found in Ostrogothic, Visigothic, and Merovingian contexts of the later fifth and early sixth centuries. The accompanying catalogue is not intended to be exhaustive and for the most part is limited to objects in precious metals. Many of the surviving Hunnic Period buckles, with solid gold tongue and loops but simple cloisonné plates, are omitted from the catalogue, as are a series of female finger-rings inlaid with simple Mosaic Style I motifs. Likewise cloisonné ornaments in Pontic and Caucasian contexts from the middle of the fifth century onwards are referenced, but not catalogued here. Nonetheless, the catalogue aims to present a representative range of cloisonné styles and technologies.

The Late Roman and Late Antique material reviewed in the first two chapters has never been gathered together before in a systematic manner. This is likewise true of the objects briefly discussed in Appendix II. Chapter Two focuses upon objects reported primarily in Russian and Soviet Georgian literature. The cloisonné material in the third chapter, from chamber tombs at Kerch in the Crimea, has been fully published only as line drawings in Russian texts. A modern republication of this primary material, now in the State Hermitage Museum in Leningrad, is in preparation by I. Zasetskaya contemporary with this text. The author has examined and photographed most of the objects in the third chapter, while the greater percentage of the material in Chapters One and Two has been
available only in photographic reproductions. The depth of the catalogue
descriptions and distribution of figures and drawings between the three chapters
reflects this situation.

A somewhat different approach is taken with the fifth-century garnet cloisonné
discussed in the final three chapters. Many of these finds, primarily from Western
and Eastern European sites, have been the subject of scholarly articles,
monographs, and exhibition catalogues. Most of the basic catalogue information
therefore is easily available. The only "new" objects are the ornamented sword
guards recently excavated in Soviet Abkhazia which throw light on the mass-
production of garnet cloisonné in the fifth century. Some information is repeated
here for easy reference, with the description of the objects cast according to the
classification systems proposed in the text. The purpose of this section of the
catalogue is to gather all of the material together in a coherent fashion, for
reference and visual comparison. The discussions attempt to inform those objects
with new relevance, based upon the derivation and close examination of the
cloisonné styles and cellwork. Here again, a large number of the objects have
been examined in detail and questions of technical construction and
connoisseurship play a role in the discussion.

The catalogue itself and the distribution maps are divided according to the
stylistic and technical classification of garnet cloisonné established in the chapters.
A checklist of these categories is provided at the end of this introduction for easy
reference.

Literature

With only a few exceptions, the primary body of garnet cloisonné material has
been well known to scholars throughout the twentieth century. The treasures
discovered in the seventeenth and early nineteenth centuries at Pietroasa, Romania, and Tournai, Belgium, were the subject of extensive publications (Chiflet 1655; Cochet 1859; Odobescu 1976 (1889-1900)). Odobescu’s life work on Pietroasa gathered together the opinions of various scholars on a great number of related cloisonné objects. The text includes, for example, descriptions of the circumstances of the early nineteenth-century finds at Conceşti, Soviet Moldavia, that are more complete than the modern republication by Bloşiu (1974).

Despite the attention focussed by the numerous articles of the Baron de Baye on the archaeological material plundered from chamber tombs in the Crimea, these seminal finds remained fully available in early Russian sources alone (von Stern 1897; Spitsyn 1905). Recent publications from Leningrad (Zasetskaya 1975, 1979), supplemented by a catalogue of the related southern Russian material in Cologne (Damm 1988), have begun to rectify this latter situation. Russian finds from Kudenetov, Soviet Abkhazia, Morskoy Chulek, Soviet Ukraine and Bolshoi Kamenets, Russia, were likewise well-catalogued and illustrated early in the century (Kondakof, Tolstoi and Reinach, 1891; Matsulevich 1934). Only the finds from Morskoy Chulek have had a brief modern analysis (Kasparova et al. 1989).

Hampel assembled the important material from the Carpathian Basin and Transylvania (his reissued volumes are still a useful handbook; Hampel 1971 (1905)) and some individual finds were well-treated in early twentieth-century literature (Untersiebenbrunn: Kubitschek 1911; Wolfsheim: Ebert 1914). In the immediate prewar period the earliest modern analysis of the origins and development of garnet cloisonné was published by Rupp (1937). This provided not only the first recognition of the importance of cell-shapes as chronological indicators, but also the first mineralogical confirmation of cloisonné inlays as garnet.

Scholarship suffered an almost twenty-year hiatus beginning with the Second
World War, but by the late 1950s, all of the major European finds had been the subject of scholarly articles and monographs (Simleul-silvaniei (Szilágy-somlyó): Fettich 1932a; Altlussheim: Garscha 1936; Szeged-Nágyszéksós: Fettich 1953; Pouan: Salin and France-Lanord 1956). The writings of Fettich, a skilled metalworker himself, are particularly notable for their attention to the fabrication of objects. The texts by Alföldi and Werner on the Hunnic finds remain the fundamental sources for the European material, supplemented by the recent work of Zasetskaya and Ambroz on the Russian depositions (Alföldi 1932; Werner 1956; Zasetskaya 1975, 1986; Ambroz 1971a, 1971b, 1981).

Two important depositions which came to light in the 1960s at Apahida and Cluj-Someșeni, villages outside of Cluj-Napoca in Romania, threw new light on the range of high-quality cloisonné production in the second half of the fifth century (Horedt and Protase 1970, 1972). Two other modern discoveries of great interest, at Blučina, Czechoslovakia, and Pannonhalma, Hungary, likewise reveal significant features of high-status military equipment around the middle of the fifth century (Tihelka 1963; Tomka 1986). In addition, a recent major exhibition of Germanic material has been lavishly illustrated and incorporated up-to-date scholarship on significant depositions (Menghin 1987).

Truly the only archaeological discoveries which have not yet been fully integrated into western literature are the garnet cloisonné ornaments excavated in Soviet Georgia and Abkhazia and in Western Asia (Apakidze et al. 1958; Lekvinadze 1975; Ramishvili and Dzhorbenadze 1976, 1977; Torino 1985). Although briefly noted in various texts (Roth 1980; Arrhenius 1985; Damm 1988) these have yet to be set into a proper chronological perspective with the better-known southern Russian and European finds.

These are critical to the analysis presented here for two reasons. The ornaments datable to the third and fourth centuries illuminate for the first time the
Late Roman origins and Late Antique aspect of garnet cloisonné. The record is far from complete, but the numbers of these ornaments and their uniform decoration suggest that garnet cloisonné was practised in Western Asia and the Caucasus prior to, and simultaneously with, its appearance in the Crimea. This expanded record leaves little doubt that garnet cloisonné itself must be considered a facet of Late Antique jewellery manufacture, certainly not limited to or even derived from "barbarian" ornamental styles.

In a similar fashion, garnet cloisonné ornaments excavated from warriors' graves in Soviet Abkhazia throw new light on the interpretation of weaponry production in the fifth century by confirming the existence of multiple, and probably identical, types of ornaments. The importance of the latter discovery has been briefly reviewed by Kazanski and Tomka, independent of, but contemporary with the research here (Tomka 1986; Kazanski 1988). The more complete analysis in this text demonstrates how these ornaments from the present-day USSR, which share features with both Crimean and European finds, link Late Antique/Early Byzantine and barbarian traditions of garnet cloisonné.

The apparent absence of material from the Late Antique Period in the archaeological record, and the concentration of garnet cloisonné in burial contexts in Europe, are two of the primary factors which have skewed the interpretation of the origins and development of garnet cloisonné for over a century. It is arguable that it is only now, in the late twentieth century, with the addition of the Late Antique finds and the amplification of the high-status material provided by the Apahida and Blucina finds, that a comprehensive typology may be justified. But the fact remains that, until recently, no classification at all of the majority of the high-quality garnet cloisonné has been attempted. It is useful to consider why this was the case and how these objects have been referred to in the past.
Historical and Ethnic Interpretations

It was a primary assumption of many late nineteenth- and early twentieth-century studies of garnet cloisonné that the ethnic origin of its owners and makers was inseparable. This approach led to the application of (primarily Germanic) tribal names to many of the major cloisonné finds, as well as to the systematic association of the archaeological and historical records.

The pervasive nature of these viewpoints in scholarly literature cannot be discounted. Ethnocentric bias affects the most basic terminology for the fifth century itself - "l'âge des invasions" from a French perspective, the noticeably milder "Volkerwanderungszeit" from the German perspective, and the "Hunnic period" from the Russian and Eastern European perspectives. The latter has at least the benefit of historical reality, as opposed to the recent English coinage drawn from the German, the "Migration Period", which aims to mitigate the pejorative Renaissance term "Dark Ages" (Ross and Verdier 1961).

More damaging than these terminologies has been the ingrained association of garnet cloisonné with the Germanic Goths. This came about at least partially as a result of the timing of the various discoveries. The nineteenth-century French and Austro-Hungarian scholars studied the Transylvanian and Crimean material in the context of the examples of Merovingian, Visigothic and Ostrogothic period cloisonné already familiar to them (for example, Cochet 1859, Henszlmann 1876). The opinions of de Baye, who argued in numerous articles that the Goths were the primary inventors (following Scythian styles) and manufacturers of garnet cloisonné, were extremely influential in this respect (de Baye 1890a, 1893b, 1908). This interpretation was seemingly confirmed by the distribution of inlaid ornaments from southern Russia to Spain along the historical trail of the Gothic and eastern Germanic tribes.
The term "Ponto-Gothic", coined by von Jenny and Volbach in 1933 as a generic term for garnet cloisonné, has been perpetuated in American literature to the present day (Ross 1965, 118; K. Brown 1989). Likewise a literal understanding and acceptance of the Gothic "history" as presented by Jordanes in the *Getica* still pervades German and German-based historical analysis (Wenskus 1961; Burns 1984; Wolfram 1988), which in turn forms the basis of the revival of the generic term "Gothic" applied to garnet cloisonné (Greene 1987).

A critical reading of the sources, context and intention of Jordanes' narrative has only recently been published (Goffart 1988). However historians may judge Goffart's innovative ideas, his thoughtful and informed criticism of Jordanes as a impartial record of a Germanic oral history should be seriously taken into account by archaeologists working in the period. As the archaeological evidence expands there is increasingly little reason to associate the development and dissemination of garnet cloisonné with the Goths. Recent groupings of material from such diverse sites as Pietroasa, Apahida, Concsi, and Taman, under the convenient heading of "Gothic material culture" (Greene 1987) are misleading and no longer acceptable. ²

Between the World Wars many of the scholarly arguments began to assume a distinctly nationalistic air. Some of these had a factual basis (for example, Rostovtseff's exploration of the Sarmatian origins of garnet cloisonné in opposition to de Baye's insistent Gothic attributions (Rostovtseff 1922)). Others were cast in the framework of a national history of the Germanic tribes (Götze 1907). One branch of scholarship during the Third Reich played a significant role in advancing the Germanic nationalistic bias in not only garnet cloisonné studies (proof of the cultural glory of the early Germanic nations), but in all fields of prehistory (Kossina 1921; Reinerth 1945).

An analysis of the impact of the distortion of scholarship in one generation and
the loss of another generation of Germanic scholars in World War II is beyond the
scope of this introduction. The after-effects of the period, however, are still felt
in the late twentieth century. The insistence upon the association between ethnic
groups and depositions in the archaeological record is an approach still vigorously
perpetuated in Eastern European studies, while old garnet cloisonné fakes,
unwittingly encouraged by the archaeologists and historians of the Third Reich,
still surface on the art market (Rieth 1970, 136-149; Moorey and Kidd in Jones
1990, 166-7, 173-6). 4

The association of history and archaeology, as with the issue of ethnocentric
bias, may be traced back to the nineteenth century. With the prominent example
of Childeric’s burial at Tournai close to hand, each of the relatively few top-quality
finds could be interpreted with reference to the known geography and history of
the period. Thus the finds at Pietroasa represented the wealth of Visigothic king
Athanaric who buried them immediately prior to his departure for Constantinople in
AD 381 (Odobescu 1976 (1889-1900)); the Wolfsheim deposit was in the
possession of Severus Alexander when he was assassinated near Mainz in AD 235
(von Cohausen 1873, cited in Ebert 1914); the Pouan assemblage belonged to the
Visigothic king Theodoric, fallen in the fields of Catalunia in AD 451 (Peigné-
Delacourt 1860).

Many of these myths persisted for an exceedingly long time. Pietroasa was
not assigned a correct deposition date in the fifth century until the 1970s (Horedt
1969; Horedt and Protase 1972; Harhoiu 1977); Werner re-attributed the
Wolfsheim find to the Hunnic period in 1956; Salin and France-Lanord queried the
Theodoric attribution for Pouan, but retained its assignment to a Gothic prince
(Salin and France-Lanord 1956). A dispassionate assessment of the warrior status
and unknown ethnicity of the Pouan deposit has appeared only recently in print
(Kazanski 1982).
Questions of whether the owners of the great treasures of the Carpathian mountains - Pietroasa, Simleul-Silvaniei (Szilágy-somlyó) and Apahida - were Gepid or Ostrogothic still pervades contemporary Eastern European literature. Interpretations of the problem divide sharply along nationalistic grounds, with the Hungarians opposing the Romanians (the arguments summarised by Pohl in Wolfram and Daim 1980). The Hungarians have recently proposed that the female grave goods at Bödpuszta (Bakodpuszta) belonged to the mother and sister of the Scirian ruler Odoacer (Kiss 1983), while one Romanian scholar would see the Conceşti deposit as belonging to the Hunnic ruler Uldin (Bloşiu 1974). The Apahida deposits likewise have been suggested to represent the burials of the Gepid king Ardaric (Horedt and Protase 1972) and his undocumented successor Omharus (Kiss 1987).

Many modern texts, of course, do not pass judgment so easily. On the archaeological side, the recent articles of Kazanski are notably restrained and stress the complexity of the ethnic situation in, for example, the Crimea (Beck, Kazanski and Vallet 1988; Kazanski 1982). Likewise Tomka refrains from any attribution for the Pannonhalma objects, justified by the multi-ethnic "Hunnic" aspect of that find (Tomka 1986). Modern scholarship stresses the thoroughly mixed Turkish, Iranian and Germanic linguistic evidence of the Hunnic period (Maenchen-Helfen 1973) and the international character of the tribal confederacies controlled by the Huns (Pohl 1980). The present text is wholly in sympathy with these views.

Historical analyses and ethnic arguments are therefore neither the focus nor the foundation of this text. If anything the following chapters present a revisionist view of historical interpretations of garnet cloisonné in the fifth century, as independent as possible from such attributions. Except in the case of the burial at Tournai which most probably belonged to the Frankish leader Childeric, it seems
unlikely that a valid match between archaeological depositions and historical figures can ever be made. Knowing that tribes such as the Scirians were present in the Carpathian Basin in the fifth century does not allow a direct correlation between any one isolated grave group and a specific person, or even necessarily a tribe.

This is not to say that the general development of historical events as preserved in the other sources of the period is rejected or that original sources are not given attention in the following discussions. Observations by Ammianus (published before AD 397) with regard to Western Asia, and Priscus' famous account of the Huns (AD 470s) are among the sources that provide facts relevant to garnet cloisonné. In the case of the hypotheses advanced in Chapter Three, the Theodosian Law Codes are drawn upon as a source of information about imperially-controlled production. Likewise the broadest outlines of Iberian and Sasanian history and the roles of Germanic versus Alanic military figures are among the historical situations specifically referred to.

Romans, Huns and Barbarians:
Towards a New Classification of Garnet Cloisonné

The focus upon historical and ethnographic interpretations of archaeological material has deprived garnet cloisonné studies of even the most basic stylistic classification. As long as cloisonné ornaments from different areas could be understood in terms of their presumed tribal associations, there was no need for a rigorous analysis of their elements. Thus Leeds could ask "Vandal or Visigothic?" with the anticipation that the correct historical assignment of objects was also a sort of classification of those objects (Leeds 1951). Even Rupp, who wrote one of the most comprehensive and enlightened surveys of garnet cloisonné, was content
to point out some major cell-shapes and group all of the fifth-century material under the chapter heading: *Die Entwicklung der Zelleneinlage bei den Goten* (Rupp 1937, 39-64).

The absence of a descriptive terminology is felt particularly in fourth and fifth-century garnet cloisonné studies, where an umbrella term such as "Gothic" no longer applies and the term "Migration Period" focuses on the owners rather than the producers of jewellery. The terms "Ostrogothic", "Visigothic" or "Merovingian" applied to later fifth and sixth-century inlaid ornaments found in modern Italy, Spain and northern Europe, respectively, have the benefit of association with definable political entities. These remain useful codes for designating those groups of ornaments which probably do reflect tribal tastes and production. The classification of those ornaments with regard to characteristic cell-shapes such as the *halbkreismondförmige* or omega cell (Werner 1958), and more recently the stepped rhomboid (Arrhenius 1969, 1985) is more advanced than for the preceding centuries. It is ironic and not insignificant that three of the major commentators on fifth-century garnet cloisonné, de Baye, Rupp and Arrhenius, writing over the period of a century, should all have had as their vantage point the eminently more comprehensible Merovingian Period ornaments.

As a first step in establishing a classification system for fourth- and fifth-century garnet cloisonné, it is appropriate to view those ornaments in the context of the major political states of the fourth and fifth centuries - the organised Roman and Sasanian states, recognised by one another, and the renegade Hunnic "states" which asserted their control over the barbarians living outside the *limes* or borders of both empires. For while certainly aware of their own ethnic or regional traditions, the owners and the makers of garnet cloisonné jewellery surely functioned and saw themselves in relationship to these political entities.

This is particularly relevant to garnet cloisonné, as much of the best
craftsmanship was applied to high-status weaponry, jewellery and horse fittings, intended for ceremonial display. Even in the Late Antique period it is probable that much of this cloisonné had both social status and political connotations. By the middle to second half of the fifth century, it is indisputable that the men who wore ceremonial cloisonné ornaments also served in the military or civil organisations of the Roman or Early Byzantine Empire.

As noted at the outset, one of the specific aims of this study is to define more clearly the role of the Roman Empire in the production of garnet cloisonné. It is a curious fact of garnet cloisonné studies that, until Arrhenius reintroduced the concept that Germanic leaders such as Childeric might have acquired their weaponry fittings from Constantinople, few scholars in the twentieth century had given much serious thought to the possibility of Roman or Byzantine influence on garnet cloisonné. Böhner had detected Late Antique influence in the Childeric material, but no one followed up on his observations (Böhner 1948); Von Falke saw the Olbia finds as Eastern Roman, but his suggestion was rejected in favour of the Goths in their primary publication by Ross (Von Falke 1928; Ross 1965).

One has to return to the nineteenth and early twentieth centuries to find discussions of the probable role of the Roman Empire in garnet cloisonné production. Speculations such as those by Labarte that Childeric acquired his sword from Constantinople (Labarte 1872) was either dismissed out of hand (de Baye 1893) or lost in the crowd of commentators on the Germanic tradition. Von Stern alone questioned de Baye’s Gothic assertions and proposed Bosphoran Greek origins for garnet cloisonné jewellery (Von Stern 1897). (His argument, that the Goths learned this technique from the Greeks, however, was based upon an insupportably early date for material from Kerch Glinischche.) Riegl deftly criticised the nationalistic bias of Germanic scholarship and identified the classicising elements in garnet cloisonné. Unfortunately, his attempts to derive the inlaid
patterns from Roman enamelling and openwork metalwork did not recognise the lapidary origins of cloisonné plates and remain ultimately unconvincing (Riegl 1987 (1921)).

The Bosphoran line of thought is continued in twentieth-century Hungarian and Russian surveys which seek the origin of garnet cloisonné within the Greek workshops of Panticipaeum (the ancient name for Kerch) (Fettich 1953; Gaydukevich 1971), or at any rate its diffusion from this region (Zasetskaya 1975; Kazanski 1988). One problem with this theory is the absence of any similar work prior to the Hunnic period, and indeed the lack of evidence for a major, innovative jewellery tradition after the Hellenistic period in the Northern Pontus. Although Greek and Roman gem-working is a primary element in garnet cloisonné, current evidence suggests that such cloisonné may have arisen in Western Asia and Transcaucasia. It may be that these styles and tastes were adopted in the new Roman capital of Constantinople, whose economic expansion contributed to the revival of jewellery manufacture in the old Greek cities around the Black Sea.

The failure or reluctance of scholars to assign any cloisonné to a classical tradition is made even more curious by the presence of objects which, if they lacked garnet plates, would certainly be considered Byzantine. These include liturgical items such as the Gourdon paten and the Varna casket, as well as Christian jewellery from such diverse sites as Olbia, Cluj Someșeni, Varna and Koudiat Zateur. These were found in provincial areas, to be sure, but a similar hesitation would not apply to the assignment of high-quality jewellery from around the Pontus and Mediterranean to a Greek tradition in an earlier period (Higgins 1980). Similarly, high-quality gold belt fittings and necklaces found in Avaric contexts are generally considered to reflect Byzantine influence or manufacture (Bott and Meier-Arendt 1985). In these periods, as in the Migration Period, provincial areas became repositories of rich objects as a result of inhumation with
grave goods.

Although this reluctance must be largely attributed to the sacred status garnet cloisonné has attained within the Germanic national tradition, it is not helped by the tentative historical terminology for the Roman Empire during the fifth century. At what point the Late Antique period dissolves into the Early Byzantine period is rarely, if ever defined, with some authors dating the beginning of the Byzantine Empire to the foundation of Constantinople in AD 330 and others to the assassination of the last Roman emperor in the West in AD 476. Although the people in the Eastern Roman Empire saw themselves as Romans (*Romaioi*), modern history terms them Byzantines. To become Roman remained a primary goal for many barbarian tribes in the fourth and fifth centuries, not necessarily as citizens, but in terms of social prestige and economic advantage.

In the present text the term *Late Antique* is used with reference to material which seems to draw most closely upon third and fourth-century traditions, while the term *Early Byzantine* is applied to objects which have a clear continuity forward into the sixth century. This thesis queries the theory of the barbarian origin of garnet cloisonné and seeks to establish guidelines for the material which must be seen in the light of a classical or classicising tradition. The assignment of objects to a Late Antique or Early Byzantine *tradition* does not insist that in all cases these objects were manufactured in, for example, Constantinople. It merely assumes that whoever made them was aware of the broader trends of jewellery manufacture within the *oecumene* of the Roman world. Much of the cloisonné in what might be considered the Early Byzantine tradition is datable only by its inclusion within barbarian inhumations. Before turning to the "barbarian" adaptations of cloisonné, a brief mention should be made with reference to the oriental aspect of garnet cloisonné.

One school of thought has proposed a Persian origin for garnet cloisonné,
based partially upon the existence of cold cloisonné in Achaemenid Persia (Dalton 1902, 1964). Lasteyrie, De Linas and Ebert were among the more articulate advocates of this view (De Lasteyrie 1875; De Linas 1877-1887; Ebert 1914). Their arguments were based largely upon the finds from Wolfsheim and Pietroasa and the so-called "cup of Chrosroes". De Linas, like Rupp and Dalton, detected an Indian element in garnet cloisonné, without possessing, however, enough evidence to build a substantial case.

The Wolfsheim pendant can be seen now to fit into one early style of garnet inlaying preserved in such diverse areas as Italy, Western Asia, the Caucasus and Afghanistan (Chapter Two). The Chrosroes bowl may be dated on other grounds to the seventh century and thus cannot serve as a prototype (Harper 1981). The presence of Western Asiatic elements in the Pietroasa treasure are best interpreted as reflecting influence from Roman Syria, while specific technical features are firmly connected with fifth-century garnet cloisonné in the Byzantine tradition (Chapter Five and Appendix V).

There is increasing evidence, however, that there was a tradition of garnet cloisonné inlaying in both the Sasanian and Eastern Hunnic empires. Surviving examples suggest that it most probably drew from the same traditions in Western Asia as did Late Antique cloisonné in the Eastern Roman Empire (Appendix Two). There is also evidence of inlaying of turquoise, lapis lazuli and small garnet plates in Kushan and Sarmatian material, preserved in present-day Afghanistan, Pakistan and southern Russia. These are datable to the first century BC and first century AD. It is probable that this Saka, or more broadly Iranian, tradition dovetails with later Sarmatian and Hunnic traditions in Central Asia, the steppes of Kazak hastan and Uzbekistan as well as in Afghanistan and Pakistan. The surviving garnet cloisonné ornaments from those regions and the eastern and northern borders of the Sasanian Empire in general, however, are too few in number to determine to
what extent these represent individual traditions rather than reflections of Roman, Partho-Sasanian and Byzantine styles.

In addition, there are parallels between the types of weaponry and harness fittings used by the Sasanians, Huns and Romans. It would not be surprising to find someday more substantial evidence of the cross-fertilisation of forms and decoration between these areas.

In contrast to the position of the Roman/Byzantine Empire, that of the Hunnic "empire" in garnet cloisonné studies is relatively well-established. Werner’s pioneering study established the significance of the Hunnic state and the basic range of material culture that characterised finds from the later fourth and first half of the fifth century (Werner 1956). Russian and Eastern European scholars now define the Migration Period in terms of an Early Hunnic Period (AD 370/380 - 420) and Later Hunnic Period (AD 420/430 - 454). The beginning dates reflect the assumption of Hunnic control in the northern Pontus, while the latter range mirrors the spread of Hunnic power into Roman Pannonia and the ascendancy of Attila.

Zasetskaya has viewed the Huns as the critical motivating force in the creation and distribution of the "polychrome style" (including garnet cloisonné)(Zasetskaya 1975). Rejecting associations with the Goths, Sarmatians or Alans, she substitutes Hunnic patronage of the Bosphoran goldsmiths as an explanation for the rise of garnet cloisonné. While this historically accurate interpretation has much to recommend it, neither the invention nor the diffusion of garnet cloisonné can be explained with this model alone.

Within the warrior graves of the Hunnic Period two differing qualities of material are preserved. One, often of poor workmanship, finds parallels in the cloisonné preserved in contexts which reflect the material culture of the settled populations of present-day Eastern Europe and southern Russia, the Chernyakov cultures.
Other Hunnic Period depositions preserve examples of the highest-quality cloisonné known to have been produced in the fifth century. As there is no evidence of good quality cloisonné being manufactured by the Huns themselves (the majority of Hunnic ornaments are set with cabochons alone), such quality ornaments are most logically seen as having emerged from urban centres where jewellers had access to stones and the capability to grind and set them. Both technological and design elements allow them to be associated with the Roman Empire.

A renewed emphasis upon the role of the Roman/Early Byzantine Empire in the development and distribution of garnet cloisonné should not be taken as a rejection of the barbarian elements of cloisonné. This study uses the term barbarian, in the most neutral sense of non-Roman. The term includes Germanic, Sarmatian and Alanic tribes. The coinage Migration Period is used as an umbrella term encompassing the late fourth and fifth century. This includes not only the ornaments of the Late Antique provincial populations, such as the Chernyakov/Sântana de Mureș cultures, but also the material which seems to represent regional production before the rise of the Merovingian, Ostrogothic and Visigothic states.

Several areas of barbarian impact upon garnet cloisonné may be proposed. Fittings such as strap ends, scabbard slides and broad hilt pieces, which became prime areas for ornamentation, probably reflect the introduction of Sarmatian as well as Sasanian weaponry types into the Roman Empire. As the barbarian tribes were intimately bound up with Late Antique diplomatic initiatives and military donatives, they certainly would have participated in the process of the diffusion of garnet cloisonné, though to what extent their tastes were presented or were influential cannot be certain. At one level garnet cloisonné must be seen as an efficient and relatively inexpensive means of decorating a given quantity of
ceremonial weaponry and horse harness, perfectly adapted to a government keen to impress at minimal cost. The mechanisms of how such objects were acquired reflect the complex relationship between the Romans and the Hunnic confederacies, with gift-giving, military decoration, plunder and outright purchase among the possible means of acquisition.

At the same time, a process of adaptation of Late Antique traditions of cloisonné to certain classes of barbarian ornaments, such as the *fibulae* from the treasure at Simleul-Silvaniei (Szilágy-somlyó), was taking place. By the middle of the fifth century, there is evidence of regional manufacture of cloisonné ornaments in Europe, North Africa, and the Caucasus, derived from, but only partially dependent upon what may be seen as the official Roman/Byzantine styles. Such ornaments were not limited to tribes of Germanic origin.

The latter development is assessed in Chapters Four through to Six, which attempt to distinguish regionally-produced material which draws upon both Roman and provincial barbarian traditions. The first evidence of such work appears on material assigned to the second Hunnic period - at sites such as Pouan, Dunapataj-Bödpuszta and Regöly in Europe, Koudiat Zateur and Ballana in North Africa and Gilatsch and Kislovodosk in Soviet Abkhazia. In Europe the fusion of these elements into a distinctive style may have taken place by the time of Childeric (i.e. before AD 480). Again there are different levels of quality in these ornaments and precisely where they stand in relationship to actual Early Byzantine production is not an easy question to sort out.

As a final note it should be recalled that the proposed chronologies for the fourth and fifth centuries remain entirely relative. Current conventional chronologies for the Early Hunnic period in the Crimea (Zasetskaya 1968, 1979), for the Sîntana de Mureș/Chernyakov horizon (Shchukin 1977, 1979; Kazanski and Legoux 1988), for the Migration Period horizons in the region of the middle
Danube (Tejral 1973, 1988; Kaltofen 1984), for the Hunnic period in general (Zasetskaya 1986; Kovrig 1985) and for the early Merovingian weaponry horizons in Western Europe (Menghin 1983) have been followed here (Fig. 11). Likewise recent assessments of the general chronologies of depositions in the Iberian peninsula and North Africa (Koenig 1981; Török 1988) have been taken into account. The fact that the classifications proposed by Zasetskaya (1986) and Ambroz (1971a, 1971b, 1981) of Hunnic period material in southern Russia are at odds with one another by over a century on some objects illustrates, however, how nebulous the time boundaries really are in the Migration Period. In-depth, critical analyses of these chronologies have not been undertaken here. The placement of ornaments within one or another chronological time frame is only intended to suggest their relative positions within fourth- and fifth-century production and should never be construed as fixed/absolute dates.

Methodology

As the author progressed in her studies it became obvious that a fresh approach was critical for the advancement of scholarship in this field. Fundamental to this approach is the establishment of a terminology of classification that is purely descriptive and not reliant upon any ethnic, political or geographical focus. This approach, wherever possible, emphasises the technology of manufacture of these objects, inseparable from the final appearance of the cloisonné and perhaps ultimately the key to approaching dating and understanding their workshop production. Greater understanding of which craftsmen had the technological capability and aesthetic vocabulary to create these objects must precede speculation as to who ultimately owned and buried the objects.

The *magnum opus* by De Linas was one of the few works on cloisonné which
attempted to treat cloisonné separately from other forms of inlaid jewellery (De Linas 1877-1887). The failure to distinguish between the "polychrome style" (i.e. any jewellery set with coloured stones) and cloisonné proper was a common trait of many early commentators and still persists in Russian scholarship (Rostovtzeff 1922; Gaydukevich 1971; Zasetskaya 1975). This broad association allows the assumption that, because cabochon garnets appear on Sarmatian and Hunnic ornaments, therefore these groups were the originators of garnet cloisonné inlaying.

One of the most enlightened interpretations of the origins of garnet cloisonné was presented by Dalton at the turn of the century (Dalton 1902). Free of many of the prejudices of his contemporaries, he delivered a careful analysis of some early forms of garnet inlaying, paying attention to the actual physical manufacture of the objects. He, and later Rupp, recognised the international distribution of early garnet inlaying, with surprisingly well-preserved examples from regions as far east as Bactria and India. Rupp's lengthier analysis was arranged in chronological sequence in the manner of this text (Rupp 1937).

Kendrick, in his discussion of Anglo-Saxon polychrome jewellery, advanced a stylistic division based upon the shapes of the cloisons (Kendrick 1933, 431, 446-9). Although far from a complete analysis of shapes, his divisions recognised some fundamental differences between the late fourth and early fifth-century styles (termed by him the "ancestral Petrossa style") and the mid- and late fifth-century styles incorporating stepped rhomboids and quatrefoils.

The most recent survey of garnet cloisonné has been presented by Arrhenius, who sampled the paste backings of Merovingian Period garnet cloisonné objects in an attempt to establish groupings and define workshop centres (Arrhenius 1969, 1985). Her stimulating books break new ground in the understanding of the physical elements of garnet cloisonné, including the mineralogy of the garnet.
stones and their preparation into shaped garnet plates. While Arrhenius devoted some space in her studies to the origins and classical elements of cloisonné, her laboratory research was grounded in sixth-century material. Objects from the fourth and first half of the fifth century were not the focus of her studies and were, in many respects, an adjunct to her investigations into sixth- and seventh-century cloisonné.

The chronological approach of the discussion here aims to correct the back-to-front interpretation present in the works of Arrhenius. The first chapter of this study deals with the fundamental technology of grinding and shaping garnet plates, emphasising ancient technology and the Greek and Roman methods of preparation of garnets for jewellery, intaglio blanks and beads. A more comprehensive examination of the antique traditions from which garnet cloisonné developed enlarges and clarifies the material published by Arrhenius.

Although disagreeing on some fundamental points with Arrhenius’ interpretation, this author is indebted to her pioneering studies. Her emphasis upon technology and laboratory examination of objects, in line with other recent studies by the British Museum Research Laboratory (Bimson, La Niece and Leese 1982; Bimson 1985) surely represents one way forward in the study of the technology of garnet cloisonné.

Arrhenius, like Kendrick, Rupp and Werner, recognised the potential of the different shapes of the garnet plates set into cloisonné as one possible way of categorising different objects. In her most recent study, garnet inlays are grouped into four categories - cabochons, and shapes based on circles, polygons and "stepped" rhomboids. Each shape was identified by a letter and number. The "stepped" shapes were grouped according to the size of the templates she believed were used to measure off the height of each step.

Arrhenius’ terminology for individual shapes has not been adopted here, as
most of the shapes are common geometric ones, more easily referred to as circles, rhomboids, rectangles and triangles than 4C, P^4, P^4_r and T^3, respectively. Not only do her groupings mix shapes from various periods, but her primary grouping of stepped shapes is applicable only to material from the second half of the fifth century through to the seventh century. Her lists also fail to recognise some critical stone shapes such as cabochon bars.

The identification here of the garnet cabochon, bead and intaglio shapes in the Hellenistic and Roman periods allows a clearer picture of the origins of garnet plates. More importantly, an understanding of this heritage brings forward the possible reasons for the uniform size of some garnet plates found on fourth- and fifth-century material, without resorting to Arrhenius' untenable theory of standardised templates.

The core classifications advanced here are based upon groupings of plate shapes into distinctive cloisonné patterns. The research of Zasetskaya, who also identified the lack of a proper terminology to define garnet cloisonné, is closer to this approach (Zasetskaya 1982). In the context of her studies of Hunnic period polychrome objects, she charted both individual plate shapes and their characteristic groupings. Garnet cloisonné was the focus of only one part of her analysis and while her divisions are stylistically accurate, they are neither rigorous nor comprehensive enough to form a true typology for discussion. The absence of the Late Antique cloisonné as well as much of the second half of the fifth-century material in her chart also limits somewhat its usefulness. Nonetheless, the present analysis grew in part from her preliminary classification.

Other tentative steps have also been made towards a classification of garnet cloisonné. Radu Harhoiu, in his modern analysis of the Pietroasa treasure, broke down the polychrome style into three techniques - cabochon, cloisonné, and cloisonné à jour (Harhoiu 1977). Within his scheme, the technique of cloisonné
had two manifestations - straight line and wavy-line cellwork, corresponding to an earlier and a later phase. These simple categories are too general to provide for a comprehensive analysis of all of Late Antique, Migration Period and Early Byzantine cloisonné. Helmut Roth recognised that the design tendencies present on Late Antique material preserved in Soviet Georgia were echoed in fifth- and sixth-century work, but failed to formulate in any cohesive fashion the development of these styles (Roth 1980).

The garnet cloisonné objects in this study are divided according to styles and technology. A series of stylistic groups, which to some degree overlap in chronological succession, form the basis for the discussion in Chapters Two through to Six in the book. These stylistic groups, with the individual cell shapes and the cell groupings that characterise them, are illustrated in Figures 1-10. For reference, brief description of their fundamental criteria listed below. More complete analyses, of course, may be found in the appropriate chapters in the book.

With two significant exceptions, this study is concerned with individual plate shapes only as they are combined within a pattern. It is therefore the pattern names that are used for classification, ie the Medallion Style, Mosaic Style, Carpet Style, etc. The exceptions to this terminology are the stylistic groupings where the sizes of the individual plate shapes and sizes may have been overriding factors in the composition, the Unit Cell Style and the Stepped Rhomboid category of the Notched Plate Style. It is important to note that, while some styles have a distinctive set of plate shapes, others share many of the same shapes. Therefore it is not the shapes alone that define a style, but the manner in which they are combined. These reflect the availability of materials and equipment as well as aesthetic conceptions.

Laboratory analyses of the widely dispersed objects in this catalogue were
obviously a physical impossibility within the time and financial constraints of a PhD thesis, and is not the focus of this study. Nonetheless the large numbers of objects viewed in a relatively short period of time, supplemented by existing studies, allows a preliminary technological classification. Future scholarship of course may alter or refine the categories proposed here.

NOTES

1. Curiously the shift in terminology applies primarily in archaeological and not in historical scholarship, where the term "Dark Age(s)" still appears (for example, Llewellyn 1970, *Rome in the Dark Ages*).

2. The Goths had left the Crimea and were unlikely to have been political leaders by the presumed period of the depositions at Kerch (ca AD 380-420), although they may well have been intermarried with native Alans, Sarmatians, and/or Greeks. The Simleul-silvaniei (Szilágy-somlyó) hoards derive from regional Late Antique workshop traditions, with cloisonné applied to fibulae types with a wide-ranging distribution in the Sintana de Mures and Chernyakov culture areas. The finds are of high-status, but there is no reason why the owners could not have been Gepid, Dacian or Thracian. The deposition date of Pietroasa is certainly too late to be Visigothic, although whoever accumulated the treasure presumably could read Germanic runes. As at Apahida, this could have been any one of a number of members of eastern Germanic tribes. In any of these cases Gothic or Gepid ownership does not mean that the objects are necessarily of Germanic workmanship.

3. Two excellent recent summaries of the power and abuses of Nazi propaganda in archaeological studies are provided by Veit 1989 and Arnold 1990.

4. One of the most famous of these, the Königsberg eagle brooch, eventually fooled both Nandor Fettich and Herbert Kühn; another, a "Lombardic" sword, was recently acquired in good faith as ancient by the Metropolitan Museum in New York (Nickel in MMA Bull, Fall, 1989; Ogden in SJH Bull, Spring 1990). It is also of interest that one of the other major garnet cloisonné fakes of the twentieth century, the belt from the Maikop treasure (now in the British Museum collection, no. MLA 1910, 6-22, 1), served as the lynchpin of Rostovzeff’s arguments in favour of the Sarmatian origins of garnet cloisonné (Rostovtzeff 1922, 185 ff). The fact that this and other ornaments in the style were early twentieth-century constructions was not exposed until 1961 (Iessen 1961; see also Moorey in Jones 1990 for a recent discussion).

5. De Baye wrote, for example: "This cloisonné work is, in our opinions, the first aesthetic manifestation of the Gothic nations. It is idle to seek its origin in the degradation and decrepitude of the classic art of Greece and Rome; still less can it be considered as directly borrowed from the civilised nations of the East. It is more reasonable to regard it as the adoption and improvement of a distinctive art, practised through long ages by the Barbarian tribes." (De Baye 1893a, 69).
6. The occasional reference to the Pietroasa treasure's "Persian" (read: Sasanian) elements still persists in modern literature (Greene 1987, 125), perhaps based upon its inclusion in Pope and Ackerman's *Survey of Persian Art*. Greene's comments are with reference to the panther-handled cups (a common motif of the Late Antique and Early Byzantine world) and to cloisonné *à jour*, presumably based upon the evidence of the Cup of Chrosores.

7. This text, however, follows Zasetskaya's proposed chronology.
GARNET CLOISONNÉ CLASSIFICATION

TECHNOLOGICAL DIVISIONS

Gold Sheet and Paste Inlaying

Garnet plates secured in a bed of paste and overlain with a sheet of gold foil stamped out with patterns in the shapes of the stones. The paste may be applied on a core of metal or another material such as wood.

Band Cloissonné

Each flat plate completely surrounded by a band bezel forming the cell walls; cells walls soldered to the backing plate.

Shared Wall Cloissonné

Each plate sharing a single cell wall, the cell walls soldered to the backing plate and side walls.

Framework Cloissonné

A soldered framework of band cells surrounding garnet plates. The cell walls are soldered to the side walls, but may or may not come into contact with or be soldered to the backing plate. Divisible into four classes, defined further in Chapter Five:

1) objects with a three-dimensional paste core overlain with a framework of cells and plates;
2) objects with a cast metal casing filled with paste which supports a cloisonné framework;
3) objects with a framework of cells and stones separated by a bed of paste from a thin gold backing sheet;
4) objects with only a central cell or linear rows of cells soldered to the backing plate.

STYLISTIC DIVISIONS

Medallion Style

Trapezoidal, triangular, rectangular or curved sectional plates set in a continuous single row around a circular or oval form. Employed as a decorative border or in concentric zones around a central carved gemstone, coin, etc. Garnet plates often alternating with green glass (Fig. 2).

Technology: Shared wall-cloisonné.
Medallion Style, Phase II

Square, rectangular, trapezoidal, or curved sectional plates set around the border of headplates, bows and footplates of plate fibulae. Sometimes alternating with green glass. Small circular plates as well as individual quatrefoil plates employed. Contemporary with, and sometimes overlapping, Rectilinear and Unit Cell Style (Fig. 2a). Technology: Shared wall cloisonné.

Rectilinear Style

Square or rectangular plates placed side by side to form a grid. Sometimes set with alternating green glass to form a checkerboard pattern (Fig. 3). Technology: Shared wall cloisonné.

Rectilinear Style, Phase II

Square or rectangular plates set in a grid pattern, a linear pattern, or arranged bilaterally. Some patterns alternating with green glass; some square or rectangular plates matched with triangular plates. The plates sometimes drilled with concentric circles or a ring and dot motif. Contemporary with Rectilinear and Unit Cell combinations (Fig. 3a). Technology: Shared wall cloisonné.

Unit Cell Style

Circular, rhomboidal, bean or heart-shaped plates set adjacent to one another in a linear row, with triangular or small curved sections of plates as auxiliary cells. Technology: A combination of shared wall and band cloisonné.

Mosaic Style I

Circular or rhomboidal plates centred within a rectangular frame, surrounded by notched rectangular or curved triangular auxiliary cells. On more elaborate works, non-geometric shapes, such as acanthus and thumbnail-shaped plates, are also incorporated within the design.

Expanded designs often include either narrow rectangular plates or cabochons incorporated into the design. In this case the height of the rectangular plate or cabochon is equivalent to the height of the design pattern (Fig. 5). Technology: A combination of shared wall and band cloisonné, some examples in framework cloisonné.

Mosaic Style I, Phase II

Circular and oval plates combined with notched rectangular plates and occasionally a half-heart-shape, often bilaterally symmetrical and preserving the focus upon the curvilinear plate within a rectangular frame (Fig. 5a).
Technology: Shared wall and band cloisonné.

**Rectilinear and Unit Cell Combination**

Circular or rhomboidal plates set adjacent to one another, combined with square or rectangular plates, often in a bilaterally symmetrical pattern (Fig. 6).
Technology: Shared wall cloisonné.

**Rectilinear and Mosaic Style I Combination**

As above, but with the circular or rhomboidal plates centred in a field in the manner of Mosaic Style I compositions (Fig. 6a).
Technology: Shared wall and band cloisonné.

**Cabochoon Bar Style**

Circular, rhomboidal, heart-shaped and thumbnail-shaped plates in linear rows flanked by cabochoon bars. Auxiliary triangular and notched rectangular and triangular plates. Rectangular plates generally ground with large notches. More complex designs, still framed by bars, formed with curvilinear sections, palmette shapes, L-shaped cells, etc. Overlaps with notched plate production. Some designs incorporate oval cabochoons in place of unit cell shapes in the design (Fig. 7).
Technology: Primarily framework cloisonné, one example in shared-wall cloisonné.

**Mosaic Style II**

Oval, teardrop, semi-circular, feather, quatrefoil and free form plate shapes, set as complementary units within an overall pattern. Predominantly curvilinear shapes, with the occasional insertion of a notched rhomboid or cross-shaped plate. Circles enclosing rhomboids or diamonds forming a quatrefoil diaper, feather patterns, circles enclosing crosses, and running circles among the patterns used. Sometimes combined with green glass, small cabochoons and cabochoon bars (Fig. 8).
Technology: Primarily framework cloisonné and shared wall cloisonné.

**Notched Plate Style**

Plates of varying shapes, but particularly rhomboids, triangles, rectangles and circular sections ground with semi-circular notches along one or more sides. Complex versions of earlier styles, with notched rhomboids replacing unit cells, either as the focal point of a design or linked into overall patterns, and rows of linked notched rectangular cells adjacent to one another (Fig. 9).
Technology: Shared wall and framework cloisonné

**Carpet Style**

Cell-shapes overlap with Mosaic Style II designs. In most elaborate phase of both variants, increased tendency to cover sides as well as front/top surface with complex interconnecting designs. Rectangular shapes replaced by S-shaped plates.
and omega (halbkreisformige) plates. Trefoil-shaped, quatrefoil-shaped, hexagonal, notched circular, and drilled circular plates replace simple circular plates. Narrow rectangular plates combined with carved cabochon bars. Pin-head cabochons and cabochon thumbnail shapes carved with parallel grooves. Free-form cells compartment (Fig. 10).

Technology: Framework cloisonné and shared-wall cloisonné.
LAPIDARY TECHNOLOGY AND GARNET PLATES IN THE GREEK AND ROMAN PERIODS

The primary inlay material of Late Antique and Migration Period cloisonné is garnet crystals ground into plates, flat on both sides. After being ground flat, these plates are ground into different shapes. As noted in the introduction, garnet plate shapes form the basis of the stylistic categories of cloisonné established in this study. The first section of this chapter explores briefly the technology behind the production of these plates shaped for inlaying within the context of what is known of ancient lapidary technology. The remainder reviews the evidence for the first garnet plates polished flat on both sides, in the forms of intaglios and beads in Etruscan and Roman jewellery, with particular reference to the possible influence of Indian lapidary technology. The final section presents evidence of individually-set flat garnet plates on Roman period jewellery preserved across a broad geographical region.

Lapidary Technology and the Production of Garnet Plates

The fundamental assumption made here is that the lapidary technology of the Greek and Roman Periods is the appropriate craft to turn to when seeking answers concerning the production of garnet inlays for cloisonné. Garnets have always been correctly conceived of as gemstones and the preparation and mounting of them in ancient times fell fully within the range of lapidary and goldsmithing skills. Pliny, for example, noted that glass imitations of carbuncles (garnets) can be detected by placing them to a grindstone, which exposes the soft and brittle
substance of the fake stones (Pliny, XXXVII.xxvi.98).

It is only recently that laboratory examinations of garnet cloisonné inlays have focussed upon possible means of their production. As recently as 1978, in the British Museum publication of the seventh-century AD garnet cloisonné jewellery from the Anglo-Saxon ship burial at Sutton Hoo, contemporary jewellers speculated that the more complicated shapes among the four thousand garnets on the Sutton Hoo treasure would have taken one to two days each to grind and polish (Bruce-Mitford 1978, ii, 601-2). Another recent examination of garnet inlays proposes not only that water-driven wheels were necessary to grind garnet stones into plates, but that mechanical templates were used to create the varying outlines of the shapes (Arrhenius 1985, 57-76). The most convincing description of garnet plate technology has been put forward by Bimson at the British Museum Research Laboratory. She proposes that lapidary techniques such as those used today for the preparation of petrologic thin sections closely replicate ancient lapidary techniques. Furthermore her investigations suggest that shattered garnet crystals, already in a slab-like shape, may have been the favoured raw material for grinding into garnet plates (Bimson 1985, 125; Appendix I).

The experiments described below and the interpretations of cloisonné constructions and styles put forward in the subsequent chapters assume that traditional, man-powered technologies can account for the production and forms of garnet plates. Indian and Persian lapidary traditions that survived well into the twentieth century, together with modern replications of ancient technologies, reinforce this approach by suggesting that skill, patience, and, what to the modern mind seems an unlimited amount of time, can produce remarkable results. 1

Lapidary terminology tends to use the term "cut" and "wheel-cutting" with regard to the working of gemstones (Furtwängler 1900; Charleston 1964, passim). This generally refers to engraving on the surface of a gem, rather than the shaping
of the edges of the stones, the technique employed to produce garnet plates for inlay. Both of these processes are achieved by means of grinding into rather than cutting through the material. Although in modern lapidary workshops vertically-mounted saw-blades are used to cut through large rocks such as agates, it is doubtful whether small gemstones, even plentiful ones like garnets, would ever have been "cut" into two or more pieces in the manner suggested by some recent drawings (Arrhenius 1985, fig. 47). To avoid confusion, in this text garnet plates are referred to as ground, and wheels used for that purpose are termed grinding wheels or discs. The following description of the processes of grinding and shaping stones with a wheel clarifies this terminology.

The achievement of a flat surface on a mineral or rock is accomplished by introducing the stone to a rotating wheel, a vertically- or horizontally-mounted, unidirectional disc onto which a grit and liquid mixture is continually fed. The mounting of a stone on the tip of a dop stick, using dopping wax, protects the fingers of the lapidary worker, but is not strictly necessary (Comp. Pl. 2.2). It is the abrasive grit itself, lubricated with a fluid (water, oil, yak butter), together with the pressure and heat of the wheel, which wears away the stone. Increasingly fine grades of abrasives ultimately produce a polished, reflective surface. The same effect can be achieved by rubbing a mounted stone against a plate of glass or another stone, although, of course, the time involved is considerably greater (Smith and Schromm 1980, 84).

The primary difference between ancient and modern lapidary technology is the source of the power. Modern wheels are powered by an electric motor, whereas traditional gem grinding is accomplished with a fiddle bow string wrapped around the shaft of the wheel. The only surviving illustration of Roman-period lapidary equipment (on a second-century AD tombstone from Lydia inscribed to a gem engraver (daktylokoiloglyphos)) depicts an implement with the shaft oriented
horizontally and driven by the bow (Comp. Pl. 1.1; Furtwängler 1900, iii, 390, fig. 206; Boardman 1970, 380-2, fig. 316). The end of the shaft is taken to represent a disc or spherical engraving tool. Modern grinding wheels are generally made of cast aluminium or iron; ancient wheels were probably made of stone, wood or possibly of lac cast together with emery (Charleston 1964, 86; the latter still recorded in Iran, Wulff 1966, 37-9). Comparative plate 1.2 shows a twentieth-century Indian lapidary worker using a large wheel of zinc, horizontally mounted and operated by means of a bow. In Comparative plate 1.2a he is using a vertical bow drill on the surface of the stone.

A shaft and wheel spun by hand like a pump drill, still in use in Ceylon (Anderson 1988, 276), can supply the same motion, as can a foot-operated treadmill system such as those depicted in eighteenth-century gemcutter's handbooks (Comp. Pl. 2.1). Modern lapidaries in Iran often rely upon apprentices who do nothing but power the bow at the fastest possible speed for the master grinder (Wulff 1966, 38), leaving the master free to lubricate the wheel and shape the stone using both hands. Although the wheel rotates continuously with the power of a bow, only the forward stroke is a grinding stroke (Wulff 1966, 39). The craftsman preserves unidirectional grinding by introducing the gem to the wheel on alternate strokes. Arrhenius' concept of water-powered wheels, based upon the assumption that the reciprocal action of a bow drill would have fractured the edges of the stones, failed to take this principle into account.

Given the evidence that wheels powered by simple bows were used continually in Persia and India into the twentieth century, it is unlikely that as unwieldy a device as a water-powered wheel would have been necessary to cut stones, the great majority of which are smaller than two centimetres. In addition to the elaborate gearing-down it would take to transfer the motion to a small grinding wheel, it is also difficult to establish how this kind of power conversion
would produce the steady, continual traction that Arrhenius envisioned.

Mineralogical investigations of garnet plates from cloisonné ornaments strongly suggest that fractured slabs of metamorphosed crystals, with parallel planes, may have provided the raw material for at least some of the garnet plates for cloisonné (Appendix I). Recent experiments undertaken by Bimson to discover how Migration and Merovingian period garnet plates were made, using such crystal slabs, illustrate some techniques that could have been used by ancient lapidaries.

For the purpose of Bimson’s experiments rough shattered slabs of garnet were embedded in a resinous cement on a slab of slate and introduced to an electrically-powered horizontal wheel, one side at a time, with spacers to regulate the thickness of the stones. It was revealed that all of the four thousand plus stones on the Sutton Hoo jewellery could be mounted onto a surface area the size of two modern bricks (Bimson 1985, 125). While still mounted, the stones were then shaped into rectangles, squares and trapezoids against a grinding wheel. This technique produced surfaces which were parallel and indistinguishable from Migration and Merovingian period garnet plates.

The technique used by Bimson produced garnet plates in the shapes characteristic of Late Antique garnet cloisonné (Chapter Two). It can be assumed from Roman period ringstones and beads that the production of additional geometric shapes, such as circles, ovals and rhomboids, formed a fundamental part of a gemcutter's skills. The production of ringstones ground flat on both sides was established by the end of the second century BC and first century BC (Maaskant-Kleibrink 1978, 132) and became commonplace throughout the Roman period (Comp. Pl. 2.3). The first phases of the Unit Cell Style of cloisonné inlaying, represented by finds from Western Asia, the Caucasus and the Crimea, incorporate these ringstone and bead shapes (Chapters Two and Three).

Variants of these shapes and instructions on how to produce them are still
described in beginning lapidary texts. Stones with convex edges (circular, oval, heart and thumbnail-shaped plates in garnet cloisonné) can be shaped by steadily moving the stone back and forth across the surface edge of a broader wheel.

Heart-shaped stones are first roughly cut, then notched at the top using the edge of the wheel (Comp. Pl. 2.4)(Smith and Schromm 1980, 68-77, 126).

One distinction between Late Antique and Migration period and later cloisonné plates is the introduction of plates that have been notched along their edges. Set adjacent to one another, such notched plates created an interlocking carpet-like pattern. Such plates, typically rhomboid- or omega-shaped, have been identified as a watershed between different styles of inlaying. Early researchers called the rhomboid plates "stepped" (Rupp 1937, 63), a term which has been followed in recent literature (Arrhenius 1985; Damm 1988).

On all of the objects examined by the author attributable to the fifth century, such steps are not right-angled "cuts" but rather semi-circular notches ground into the sides of the stones. Notches like these are created by placing the side of the stone against the edge of the rotating wheel. The surface appearance of engraved intaglios reveals that wheels with edges thin enough to grind such notches were employed in the ancient world at least from the Roman Republican period onwards (Maaskant-Kleibrink 1978, 154-5). Although the term "stepped rhomboid" is used in this text because of its acceptance in the literature, it should be seen as interchangeable with "notched rhomboids". Plates of other shapes ground in this manner are always referred to as notched.

Arrhenius proposed a nomenclature of stone shapes and a chronology for the fifth century on the basis of rhomboid-shaped plates assumed to have stepped sides. According to this theory the largest stones, "cut" with steps that are 1.8 mm in height, were the earlier inlaid shapes. These were called the "a-templets", each step having been measured by the application of a ruled straight edge
(termed by her a "templet") to create uniform right-angled cuts. The "a-stepped templets" (a.St) and stones of equivalent size were used prior to AD 480. The "steps" of subsequent stones (the b-g templets) were reduced from 1.2 to 0.5 mm, indicating to her that smaller and smaller templets were employed later in the fifth and in the sixth centuries (Arrhenius 1985, 58-76, 120-4, figs 71-3; Arrhenius 1987, 264-5). 4

Experiments carried out on behalf of the author suggest an alternative to the theory of templets. Individually-mounted garnet crystal slabs were ground flat on a horizontal wheel and then touched to the edge of a grinding wheel made from a copper penny. Both wheels were motor-driven. Notched rhomboids were easily created by introducing each side of the stone to the wheel in this manner. The size of the notches and the number of notches per side represent the size of the edge of the wheel and the length of any side of the plate. Notches ranging from 1.2 - 1.8 millimetres across indicate the different wheel edge sizes. Assuming that the craftsman would make the most efficient use of the stones available, each stone would be ground to retain its maximum possible size. The natural size of some garnet stones, together with the scale of the equipment being used, therefore conditioned how many notches could be ground into the side of a squared-off stone. Omega-shapes were notched in the same manner. One end was placed directly onto the wheel edge; the other was placed first with one side and then with the other against the wheel.

If notched rhomboids alone are considered, there can be no question that there is an overall reduction in the size of garnet inlays from the fifth to the seventh centuries AD. An examination of the entire array of garnet plate shapes from the Roman period onwards, however, presents a different picture. Garnet cloisonné inlays in the third and fourth centuries are also very small, while some of the largest surviving plates occur on examples of high-quality cloisonné from the
second half of the fifth and early sixth century.

A decrease in stone size therefore, is not due to the template being used to mark off the stone, but rather to the availability and cost of larger stones and the desire of the jewellers to create more delicate cloisonné patterns. The fact that stones were shaped by hand rather than with the aid of any mechanical instrument is confirmed by an examination of the loose stones from the cloisonné ornaments from Apahida II, Romania (Comp. Pl. 3.1). The "standardised" plate shapes reveal a great deal of variation in their outlines, variations that were hidden when the gold cell walls were burnished over the edges of the stones.

This analysis of lapidary techniques has extended into the shapes used on fifth-century garnet cloisonné ornaments. Notched shapes are reviewed in further detail in Chapters Five and Six. Techniques used for mounting garnet plates assembled in various styles are discussed in Chapters Two, Five and Six. Before turning to the assemblage of garnet plates into cloisonné, however, a brief investigation into the development of garnet plates in Greek and Roman lapidary traditions is necessary.

Garnets in Greek and Roman Jewellery

Although fundamental to an understanding of early garnet cloisonné ornaments, no recent study has systematically analysed the evidence for garnet working and setting that precedes the cloisonné in the Late Antique and Migration Periods. The following synopsis of garnet plate shapes in jewellery from the Hellenistic Greek, Etruscan and Roman Periods establishes the technical continuity between these periods. Future investigations may refine this analysis, but the overview provided below establishes the background from which Late Antique and Migration Period garnet working arose.
By the Late Hellenistic Period (ca 130-30 BC) the elaborate forms of garnet beads and stones of the Early and High Hellenistic Periods (ca 330-220, 220-130 BC) are replaced with massive round and oval cabochons that continue into the Imperial Roman Period (30 BC-AD 100). Parallel to this simplification of forms is the growing use of flat garnet plates, engraved as intaglios for ringstones and set plain on jewellery. A few forms of garnet stones are used continuously from the Hellenistic period into the sixth century AD. Other stone shapes are more difficult to trace, but seem to persist in Hellenised regions. The geometric bead and intaglio shapes known from the Roman Period characterise the Unit Cell style of Late Antique garnet cloisonné from the fourth and fifth centuries (Chapters Two and Four). Some Roman bead shapes may be derived from beads produced in India, where a parallel tradition of garnet grinding and inlaying developed.

Despite the patchy nature of the evidence, it now seems clear that related garnet working techniques were exchanged from the Mediterranean across Western Asia to Hellenised Bactria and Gandhara, reflecting the mutual contacts along the trade routes which supplied the gems. These are the same regions where evidence of the first garnet inlaying is preserved (Map 1).

Garnet Jewellery in the Greek World

The development of garnet cabochon grinding in the Hellenistic Greek and Roman Periods is briefly reviewed in Appendix I. Figures 13 and 14 illustrate the prominent shapes from the two periods. Although garnet cabochons of various shapes continued to be set in the Late Antique and Migration Periods, only two cabochon forms from this early period have particular significance to an analysis of garnet cloisonné. These are the hedera or ivy leaf form and the cylindrical and sub-cylindrical
garnet bars (Fig. 13d,e). These forms were popular in the third and second centuries BC (Griefenhagen 1975, 105-6; Miller 1979, 28; Breglia 1941, 47; Siviero 1954, 96). In the Roman Period hedera-shaped stones are preserved on jewellery from Sardinia, Syria, the Crimea and Soviet Georgia, datable to the first and second centuries AD (F. Marshall 1969, 279-80, 311, pls li.2370-71, Ivii.2697; Griefenhagen 1975, 23, 106, pls 14.3, 73.16; Apakidze et al. 1958, pl. xiii.7). Gems in this shape reappear on jewellery datable to the fourth and fifth centuries AD, sometimes incorporated with garnet plates (Apakidze et al. 1958, 132, pls xiii.7, C.16). More importantly the flattened version of the hedera, the heart-shape, is a prominent feature of the Unit Cell and Mosaic Style groups of shapes (Figs 5, 7).

There were also modifications to the cabochon bar shape between the Hellenistic and Migration Periods. Most Hellenistic bars were curved in profile and section, inlaid as segments of a Hercules knot, along the band of a diadem or around a medallion (Segall 1938, 32-5; Hoffmann and Davidson 1965, 226, no. 92; Deppert-Lippitz 1985, 275, pls xxviii, xxix). The Late Antique and Migration Period garnet bars are always straight. In section they may be cylindrical, semicylindrical or ground as thin, curved cabochon sections. A cabochon bar similar to Migration Period bars on an ear-ring in a Parthian-style setting from the first or second century AD (Comp. Pl. 4.1; Schlunk 1939, 28, no. 73, pl. 15) suggests it may have been Western Asiatic variations on Hellenistic forms that continued in Late Antique cabochon working.

This is also true of some oval and drop-shaped cabochons with a high median ridge which probably reflect grinding around a natural crystal edge of greater hardness (Griefenhagen 1975, 18, 20, pls 8.5-6, 9.9; Miller 1979, 27, pl. 19b). Small ridged cabochons, often of irregular form, are characteristic of Western Asiatic jewellery assigned to the Parthian Period (mid-third century BC - circa AD
Similar cabochons constitute the bulk of the garnet stones individually mounted on sheet gold ornaments such as plate fibulae from the Chernyakov culture regions, or the diadems and horse harness trappings of the Hunnic Period (AD 380-455). Many of these ornaments also preserve the clusters of surface granulation typical of Parthian jewellery. The continuity of gem types between these two periods has never been studied and it remains difficult to assess whether these similarities reflect technological capabilities, patterns of gem trading or cultural connections, or a combination of these factors.

There is presently no evidence to suggest that garnets were inlaid into cloisonné cells as early as the Hellenistic Period. One surviving type of Etruscan ring, however, was decorated with very small oval or rectangular garnets, ground flat on their exposed top surface. Two similar rings of this type, from Chiusi and Cortona, have been dated to the third century BC (Cat. nos 1, 2; Pl. 1.1, 1.2). These are of particular interest as the grinding of flat ringstones, predominantly banded agates, appears to have been an Etruscan development of the late fourth-early third century BC (Maaskant-Kleibrink 1978, 94-131). Whether garnet intaglios were ground flat at this early date is difficult to judge as garnet was apparently in short supply in pre-Republican Italy; garnet ringstones in Etruscan contexts have been taken as Greek imports from Asia Minor (Furtwängler 1900, iii, 150).

By the late second and first century BC, round, flat ringstones with parallel sides replace most of the old convex shapes, in all materials, due to a change in finger-ring styles (Comp. Pl. 2.3; Maaskant-Kleibrink 1978, 132; Zwierlein-Diehl 1969, 140). In the first century BC there is also a rise in the engraving of gems with wheel or disc-shaped drill ends (called the Wheel Style; Maaskant-Kleibrink 1978, 154-5). Similar tools were probably used in the notching and shaping of
some fifth-century AD garnet plates for cloisonné.

By the Late Hellenistic period (130-30 BC), the fundamental technology for grinding and shaping garnet plates was in place. By the Imperial Roman period (30 BC-AD 100), the primary components of garnet cloisonné jewellery were combined on objects such as a finger-ring with a hollow bezel, originally filled with paste and set with a flat oval garnet intaglio above a silver foil (Cat. no. 3; Colour pl. 1.1).

The Indian Gem Trade and Roman Period Jewellery

The first ancient writer on gemstones, Theophrastus, was unaware in the fourth century BC of Indian sources of garnet. By the Roman Imperial Period, however, Pliny recognised India as a major source of "carbuncles" (Appendix I). Coin evidence from India suggests that reliable and constant trade with the Indian subcontinent did not develop until after the discovery of the monsoons in the first century AD (Warmington 1974, 121-4, 394 h and i, passim), and pearls, one of the primary goals of trade with Ceylon, were not commonly used in the west until the late Hellenistic period (Segall 1938, 56).

Increased trade with the east in the Roman Period not only influenced the quantity of gems available, but also produced an "international" distribution of jewellery styles from the Roman West to the Eastern province of Syria and across the Parthian kingdom extending from the Euphrates to northwest India. The taste for the combined colours of pearls, emeralds and garnets that arose in this period continued to dominate Late Antique and Early Byzantine jewellery.

The utilisation of garnet in India appears to parallel the rise of Graeco-Roman influence in Bactria. Garnet beads were excavated from fourth- and third-century BC levels at Taxila (present-day Pakistan), but their numbers were small in comparison to cornelian and other chalcedonies (Beck 1941, 65, 1-68).
the Roman period, however, large Indian workshops became major suppliers of both roughly polished and engraved stones to the Roman world and the development of lapidary and inlaying methods in the east appear to parallel those in the west.

By the Late Roman Period (ca AD 100-330), three new forms of polished and drilled garnet beads are encountered in Roman jewellery. The first two are significant because of their shapes, and the evidence they offer of the possible influence of the Indian trade upon Roman-period gemstones. They are:

1) tabular beads, either ground flat on both sides or of lenticular profile;
2) rhomboid-shaped beads; and
3) polyhedral beads (Fig. 15a-c).

Some of the first garnet plates incorporated in jewellery are ground as circular and rhomboidal shapes, contemporary with these bead shapes. The circular and rhomboidal shapes used in the Unit Cell and Mosaic styles of cloisonné in the Late Antique period may also reflect the continuation of lapidary traditions of bead-working and ringstone production in the Roman period (Chapter Three, Appendix III).

Numerous necklaces strung with tabular beads are known (Becatti 1955, no. 523; Griefenhagen 1975, 34, pl. 30.6; F. Marshall 1969, 313-14, pl. lviii.2714). The earliest examples of these beads from burial contexts are dated to the mid-second century AD (Pfeiler 1970, 68-9, iii, xviii). A sarcophagus burial of a young girl in Bonn, coin-dated to the mid-third century AD, contained both earrings of tabular garnets and a gold chain necklace with twenty-six faceted polyhedral almandines (Comp. Pl. 4.2; A. Böhme 1974, 62-3).

The second bead shape is rarer than the first in the West. Objects such as the necklace strung with twenty-two rhomboidal garnets, polished flat on both sides and faceted along the edges, in the British Museum, are difficult to date.
Comp. Pl. 4.3; F. Marshall 1969, 312, pl. Ivi.2700), although rhomboid-shaped garnets were set as ringstones by the Imperial Roman Period (F. Marshall 1907, 466; Griefenhagen 1975, 80, pl. 60.1).

These bead shapes may be compared to excavated Indian examples, which are certainly contemporaneous with, and in some cases chronologically earlier, than similar Roman beads. A tabular garnet bead with slight collars was excavated from the third-century BC levels of Bhir Mound at Taxila, while a rhomboidal bead from nearby Sirkap may be dated to the first century AD (Fig. 16a; Beck 1941, 16, pl. vi.30). The Sirkap finds also included polyhedral garnet beads of the same period (Beck 1941, 16, pl. vi.29, 31). Two rhomboidal garnet beads identical to the British Museum beads were recently excavated from an early Kushan period grave at Tillya Tepe in present-day Afghanistan (ancient Bactria), where the cluster of high-status graves is dated from 100 BC to AD 100 (Fig. 16b; Burial 2, Sarianidi 1985, 34-5, 53). 6

Excavations in India have revealed large lapidary workshops in the Roman period, producing beads and intaglios for export. 7 The comparisons above may suggest that these mass-produced Indian stones became the primary bead forms in the Roman world. Indian technology may also have influenced the production of garnet plates for inlay.

In his study of over 900 beads from the Taxila excavations, Beck noted one of the most curious features of the Indian beads was the tendency to flatten the forms, so that circular sections became elliptical (Beck 1941, 8). This may have been the result of specific grinding techniques being employed by the Indian craftsmen, but might also reflect the fact that some stones were being ground flat on both sides for inlaying and intaglio carving as well as for bead-stringing. Elliptical or oval garnet plates are inlaid upon two surviving Roman Period ornaments, from Italy and Afghanistan, respectively (Cat. nos 9, 10; Pl. 2.1, 2.2).
Finds from Tillya Tepe reveal the inlaying of small flat garnets similar to those on the Etruscan rings discussed above. Burial 1 included twenty-two bow-shaped gold plaques with small flat triangular plates of garnet, turquoise, lapis, and an unidentified black stone (Cat. no. 4, Fig. 17). Garment plaques similar to Cat. no. 4 were included in the early Sarmatian burial at Khokhlach kurgan at Novocherkassk, Russia; De Linas’ description of the "rose-red" inlay of the latter suggests these too were set with garnet plates (De Linas 1878, ii, 142, pl. E5). Seven circular plaques composed of a cinquefoil flower with turquoise petals separated by small flat chips of garnet were also found in Burial 1 at Tillya Tepe (Fig. 18). Based upon the style and coinage found in other graves at this Kushan period site, these objects are probably no later than the first century AD. Marshall also reported finding loose cabochon garnets in comma and dot forms, together with flat pieces of turquoise paste, orthoclase feldspar, mother-of pearl, onyx, and flat and cabochon rock crystal, in House E at Sirkap (late first century AD), presumably intended for inlaying (J. Marshall 1975, 147, 156, 159-60).

Although some of these small plates must represent wastage from other lapidary production, these inlaid objects nonetheless represent a garnet inlaying tradition which appears to have developed parallel with that in Western Asia and the Mediterranean (Chapter Two). Tillya Tepe Burial 1 also yielded a small hollow cylinder, perhaps intended as a pole or sceptre top, decorated with alternating thumbnail-shaped cabochon garnets and turquoises; the lozenge-shaped interstices are filled with flat slabs of mother-of pearl (Fig. 19; Sarianidi 1985, 229). An iron knife hilt from Burial 3 at Tillya Tepe, set with flat zig-zag triangular and heart-shaped inlays in turquoise and lapis lazuli, may also be noted in this context (Fig. 20; Sarianidi 1985, 242, fig. 49). Although garnet plates do not appear on these cloisonné objects, both their designs and application to ceremonial and weaponry fittings are echoed in Late Antique and Hunnic Period cloisonné. It may be that
similar styles of inlaying were practised in Western Asia where conditions of preservation were not as favourable.

The possibility of additional technological influence from the East should also be recognised. A flattened garnet stone found within a reliquary in a *stupa* at Bhir Mound (first century BC) is notched at the bottom in the manner of garnet plates set in fifth-century *cloisonné* (*Fig. 16c*; Beck 1941, 16, pl. vi, no. 33). Two *cloisonné* medallions from Taxila, Pakistan, employing interlocking notched plates, are either earlier than, or contemporary with, omega-shaped plates used around the mid-fifth century AD in the west (Appendix II; Cat. no. 173; *Pl. 21.2, 3*). Likewise a half-melon shaped spacer bead in garnet from early Bhir Mound levels (third century BC) has parallel grooves ground across its surface (*Fig. 16d*; Beck 1941, 16, pl. vi. no. 28), a technique not preserved on garnets in the Roman period from the West, but typical of the treatment of some garnet cabochons used in the fifth century AD (Chapters Five and Six).

In addition, Pliny's note on using metal foils to heighten the brilliance of dark red stones refers to Indian settings in particular (Pliny, XXXVII.xxxi.105-6). Graeco-Bactrian and Kushan gold jewellery is often set with rounded cabochon garnets of clear violet hue, mounted with silver foils below the stones (Marshall 1904, 188). Gold foils tended to be used below garnet stones in the Late Antique and Migration Periods, but there are some examples of silver foils and silvered gold foils, which lend themselves particularly well to the enhancement of violet stones (Chapters Three and Six).

Despite the examples cited above, there is no evidence at present of any continuous development of flat garnet stones and *cloisonné* inlaying among the large and often loose confederacies of Iranian tribes in northern India and Afghanistan, the southern Russian steppes and the regions from the Caspian across Iran and Iraq. Any influence upon the West appears to be restricted to
innovations in lapidary technology. The relatively small amount of proper
cloisonné that has survived, in comparison to the numerous cabochon turquoise or
cabochon garnet settings of Kushan, Sarmatian and Parthian jewellery, suggests
that either very few centres produced such work and/or that it was restricted to
certain classes of clients. Whatever the tastes of the Kushans or Sarmatians
might have been for garnet-inlaid jewellery, the immediate antecedents of garnet
plates and cloisonné lie in the urban centres of the Mediterranean, Western Asia
and the Pontus.

Individually Mounted Garnet Plates

In the Late Roman Period (AD 100-330), the first datable examples of both
inlaid and individually set garnet plates have a wide geographical distribution,
perhaps reflecting common styles and exchange along the trade routes. More
importantly their shapes, corresponding to both Roman bead shapes and Late
Antique cloisonné inlay shapes, suggest continuous production across several
centuries. Although it is somewhat arbitrary to separate these examples of
individually-set stones from the broader development of inlaid groups of garnet
plates, a brief review of some datable examples illustrates the trends of the Late
Roman Period. The examples here and in the following chapter reveal that, as
early as garnet stones were ground with parallel sides, they were also set into
jewellery.

Of the few remaining examples of individually-mounted garnet plates from the
Late Roman Period, four may be assigned with some confidence to the second and
third centuries AD. The distribution of these few examples is concentrated in
Western Asia and Transcaucasia, regions politically and culturally connected to
both the Parthian and Sasanian dynasties as well as to the Eastern Roman Empire(Map 1).
A pendant set with a single upside-down heart-shaped garnet plate has recently been published as coming from the second-century AD levels of the Armenian excavations at the fortress of Garni (Cat. no. 5; Fig. 21). It is difficult to confirm this without access to the complete excavation reports, but its publishers claim it pre-dates third- and fourth-century material rendered in this style. Some of the architectural features of the Garni site are similar to those in the ancient Iberian capital, Mtskheta (Burney and Lang 1971, 251), where modern excavations have revealed numerous items of garnet cloisonné jewellery (Chapter Two). Parallels in other decorative arts may be cited between the two regions (Harper 1987, 348), which shared complex political relations with the Roman, Parthian and Sasanian Empires. It is not unreasonable to suppose that garnet inlaying flourished in Armenia as well as Iberia. The fact that only small items such as this survive as evidence of the fabled wealth of the Armenian rulers may be due to the fact that their tombs were supposedly sacked and their royal treasury dispersed by the Sasanians under Shapur II (AD 309-79) (Faustus of Byzance IV, and Moses of Khorene, in Langlois 1867, i, 260-1 and ii, 146).

An elaborate necklace from Grave no. 7 at Armazis-khevi, Soviet Georgia, has two flat circular garnets set into the suspension loops of the suspended amulet (Cat. no. 6, Fig. 24). This site has been identified as the necropolis of Mtskheta. The richest stone tombs in the centre have been interpreted as belonging to the eristhavi or piitaxes, the ruling nobles in the Iberian aristocracy. The latest coins in Grave No. 7 were aurei minted under Antoninus Pius (AD 149-50) and Marcus Aurelius (AD 156-7). Whatever the deposition date of the grave might be, the presence of rings of second- and third-century AD types in the tomb (Apakidze et al. 1958, pl. x.2-3, fig. 135.20-1; Henig 1974, 48-9, Types VI, X; Guiraud 1988, 79, Type 2) suggests that the production of some of the jewellery may have taken place around the time frame suggested by the coins.
A silver fibula from Dura Europos, Syria, set with circular plates of garnet, was amongst the silver jewellery included in a coin hoard found inside the Palmyrene Gate (Cat. no. 7; Pl. 1.3). The coins were predominantly Roman from the mint at Antioch, ranging from the second to the sixth decade of the third century AD (Baur and Rostovtzeff 1931, 10, 78-81). Trapezoidal fibulae are known primarily from representations on Palmyrene funerary busts. In that city the form appears to have had a limited chronological distribution from AD 120-180, after which it was replaced by round fibulae (Ingholt 1928, 54, 70, 80-2). A guild of jewellers in Palmyra, Syria, is recorded in an inscription (Cumont 1926, 65); it is possible that the fibula was manufactured there before its burial in the silver hoard at Dura.

Finally, a well-preserved ring from Spain suggests that simple uses of inlaid garnet plates may have been more common that can presently be traced (Cat. no. 8, Colour pl. 1.2). The keystone-shaped garnets on the sloping shoulders are underlain with plain gold foils. Rings of this profile, with sloping shoulders, are traditionally assigned to the third century AD (Marshall 1907, 33, nos 200-1; Henkel 1913, 11-12, nos 72-81; Henig 1974, 49-50). Keystone-shapes also decorate some of the earliest datable objects in the Medallion Style of garnet cloisonné (Chapter Two).

Conclusions

Garnet-working in the Greek and Roman Periods may be securely located within traditional lapidary technology by the numerous examples of beads, ringstones and cabochon stones preserved from those periods. The flat garnet ringstones and flattened beads ground in the Roman Period are the precursors of the flat plates set in garnet cloisonné. The shapes of some of these beads may reflect Indian traditions of gem-working, which also may have developed some
technical devices, such as notching and the use of foils, that influenced later
cloisonné inlaying in the West. The Greek tradition of sophisticated cabochon
shapes, particularly *hederae* and cabochon bars, preserved in Hellenised regions
such as Western Asia and the Pontus, was incorporated into Late Antique and
Early Byzantine garnet cloisonné patterns.

Chapters Three and Five examine the tradition of cloisonné inlaying that
combined these cabochon forms with the bead and intaglio shapes of the Roman
period. Although circular, rhomboidal, oval and heart-shaped inlays are the
primary garnet plates set individually in the Roman Period, the first true cloisonné
was accomplished using simple rectangular, triangular and square plates. The
next chapter assembles the evidence for the earliest techniques of garnet inlaying
and garnet cloisonné from material scattered from Italy to present-day Iraq, Soviet
Georgia and Afghanistan.

NOTES

1. Experiments conducted by Denys Stocks in Manchester with replications of the types of bow
drills depicted on Egyptian wall paintings has revealed that amethyst, cornelian and turquoise beads
could be produced with a copper drill and sand-powder abrasive at the maximum rate of one bead
per worker, per hour (*The Independent Newspaper*, London, 2 May 1989). In short, in antiquity,
labour was cheap.

2. The reference in Ausonius' poem on the Moselle to water-powered wheels used for grinding
stone, upon which Arrhenius' theory relies, is an isolated one. Water wheels were applied on a
large scale only for the grinding of corn in the Roman period (Hodges 1970, 190-6). One author
notes with regard to the lack of innovation in Roman industry: "The industries of the fourth century
(AD) were those which had existed at the end of the Republic ... The result was that growth could
only be produced by scaling up technical processes of limited capacity, which meant that above a
certain point production could be increased only by multiplying the number of units and not by
changing to other processes better suited to large scale production. Undoubtedly the greatest
limitation in this field was the almost total failure to utilise any sources of power other than those
provided by animals and man" (Manning in Wacher 1987, 603-4).

3. Although not impossible, there is no evidence to sustain Arrhenius' arguments that flat garnets
were artificially "cleaved", that is, subjected to heating and cooling until they broke into slabs and
what she termed "keeled" garnets. The absence of almandine intaglias with flat backs in the
Munich collection led her to suggest that the least heat-sensitive garnets, i.e. pyropes or
intermediate species with dominant amounts of pyrope, were the most suitable for cleaving
(Arrhenius 1985, 43). Unfortunately, the species of the stones in the Munich collection were not
determined by mineralogical tests, and therefore cannot serve as a guide to species for a gemstone
with such complex chemistry (Appendix I). The objections to this theory are two-fold. First, crystals shattered into slabs are a natural feature of some garnet deposits and are easily available even today (Appendix I; Bimson 1985, 125, fig. 3); keeled or ridged stones were also a common feature of garnets from the Hellenistic Period onwards. Secondly, the few Migration and Merovingian period garnet plates that have been subjected to mineralogical examinations belong in the pyrope-almandine-spessartite series with dominant amounts of **almandine** (Appendix I). See Appendix III for similar results of analyses of garnet stones employed in the contemporaneous Sasanian period in Western Asia.

4. Templets or templates are defined as a plate of wood, metal or plastic with shaped outlines or cut-outs. These are used in modern lapidary technology in one of two ways - either for the faceting of diamonds or for the production of unusual shapes from a large slab of material. In the latter case, the outline is drawn from the template onto a large slab of, for example, agate. The drawings published by Arrhenius in 1985 (fig. 46) illustrate the grinding wheel process for the production of omega and S-shapes (although double wheels would not have been necessary to produce the omega-shapes). She also acknowledges the importance of initial stone size for the finished product (Arrhenius 1985, 162). She did not, however, extend the application of this technology to the production of stepped rhomboids. In 1987 she illustrated templets as forms with looped handles, one with a ruled flat tang and the other with a curved edge for stepped rhomboids and S-shapes, respectively (Arrhenius 1987, fig. 7 a-c).

5. Garnet does not appear to have been used either at Mohenjo-Daro or Harappa in the Indus River Valley (J. Marshall 1931, i, 32; Beck in Vats 1940, i, 392-431) or at prehistoric northern Indian sites (Halim 1972, 15). This may have been primarily a matter of taste, as jade, a mineral of equal hardness and from even more inaccessible sources, was recorded by the excavators at Mohenjo-Daro (J. Marshall 1931, iii, 541-2, 684-6). Recent researchers have, however, doubted this identification (personal communication, Dr Ian Glover, Institute of Archaeology, London).

6. Faceted lozenge-shaped beads in cornelian have also recently been excavated at Ban Don Ta Phet in Thailand (200 BC to AD 200), where they are considered to be Indian imports. The presence of a double tabular bead in cornelian from the excavations at Ayaz-Kala, Khorezm, suggests an exchange of similar forms along the northern trade routes (Ptashnikova 1952, pl. i.7). I am grateful to Dr Ian Glover, Institute of Archaeology, London, for sharing the Ban Don Ta Phet information with me.

7. The best documented is Arikamedu on the east coast of India, excavated by Wheeler in 1945 (Wheeler, Ghosh and Deva 1946, 17-124). A survey of the stones in the collection there by Peter Francis revealed a total of 2,147 garnets, 139 of them in some stage of being worked (personal communication, Peter Francis of the Bead Study Trust).

8. Garni, east of Yerevan, was the mountain site of the summer residences of the Artaxiad and Arsacid monarchs. Tiridates I, founder of the Arsacid Dynasty, built a citadel and palace on the site in AD 77, but historical mention of Garni also occurs in Roman accounts of their attempt to set up an Iberian pretender to the throne in the previous decade (Burney and Lang 1971, 251; Mongait 1970, 214-15).
CHAPTER TWO

INLAYING TECHNOLOGIES AND THE FIRST GARNET CLOISONNÉ

This chapter traces the earliest evidence for the inlaying of groups of garnet plates, first in beds of paste overlain with openwork gold sheets and subsequently into cells or partitioned settings (cloisons). Material from a broad geographical area suggests that garnet inlaying was widely practised by the third century AD, but has been poorly preserved. This survey emphasizes the importance of discoveries of garnet-inlaid and garnet cloisonné objects from Western Asia and the Caucasus. Some of these may be considered chronologically earlier than the fourth- and fifth-century material from Kerch in the northern Pontus, traditionally proposed as the source of the Migration Period "polychrome style". The fact that much of the garnet cloisonné from the Late Antique Period in both the Bosphoran and Iberian kingdoms is comparable and contemporaneous throws new light on the origins of both groups of material.

Recent literature has recognized the significance of a few of these objects to the development of Migration Period cloisonné, without, however, placing them in a wider context (Roth 1979, 79; 1980, 315; Arrhenius 1985, 55, 58; Damm 1988, 84). This chapter assembles examples of inlaying in the Late Roman and Late Antique Periods and endeavours to locate them in a relative chronological and historical context.

Inlaying Technologies

Before turning to the objects it is necessary to establish a clear terminology with regard to the techniques of garnet inlaying, which will be employed in the
subsequent chapters. Two distinct methods of garnet inlaying can be
distinguished in the Roman and Late Antique Periods:

1) Gold sheet and paste inlaying; and
2) Cellwork cloisonné, subdivided into
   a) shared-wall cloisonné and
   b) band cloisonné.

**Gold sheet and paste inlaying** is constructed by setting stones in a bed of
paste and then overlaying the assemblage with a sheet of gold, punched out to
correspond to the shapes of the stones. O.M. Dalton recognized this method of
inlaying at the turn of the century and identified some of its primary examples,
terming it "plate inlaying" (Dalton 1902, 240-3). Small chisels were probably used
to create the geometric openings, which were then burnished over the stones to
secure them in place. A laboratory analysis of the paste used on the third-century
AD Wolfsheim plaque, inlaid with garnet plates in this method, revealed an organic
material, possibly a water plant, overlaid with sulphur (Cat. no. 12; *Pl. 2.3*; Ebert
1914, 60). This is consistent with the sulphur, gypsum, bitumen, magnesite,
beeswax, and resin, together with combinations of sand, clay and mud, that have
been identified as fillers in ancient hollow gold jewellery from the first millennium
BC onwards (Ogden 1982, 40; Holmes in Johns and Potter 1983, 66). Such a
paste can be moulded into any form or applied over a core of another material,
rendering it a method particularly suited to covering three-dimensional or curved
surfaces with flat stones. On objects inlaid in this method the stones tend to be
rather widely spaced with the covering metal displaying correspondingly large
areas of plain gold.

**Cellwork cloisonné** requires not only the attachment of strips of gold (cell
walls) perpendicular to a backing plate and side walls, but also the careful fitting
of well-shaped individual inlays into the cells thus created. This is a time and
labour-intensive process. This method of construction encouraged the
development of repetitive patterns, with predictable stone sizes and shapes that could be ground in advance.

No research has been undertaken with regard to the physical fabrication of gold cloisonné cells in the Late Antique and Migration Periods. This is largely because, unless objects are badly damaged or the back is clearly visible, it is difficult to examine carefully the join between the cell walls, side and backing plates. As the application of heat could affect the stones, presumably the cell walls were attached before the stones were inserted. The soldering of the entire cell wall to the backing plate, detectable on some fourth- and early fifth-century objects, is replaced in the course of the fifth century with a framework of cells soldered to the side walls, but only spot soldered onto the backing plate (Chapters Five and Six).

In early cellwork cloisonné the depth of the stones is relatively close to the depth of the cell thus created, and in some cases the stones rest directly against the backing plate. More typically a thin layer of paste was also used, both as an adhesive and simply to fill any excess space. There is no published information available about the presence or composition of the pastes used in Roman and Late Antique cloisonné before the fifth century. As no paste could be applied directly behind translucent stones without discoloration, metal foils were placed directly behind the stones. Burnishing or chasing of the cell walls over the stones was necessary to secure the stones in place, aided in some cases by the edges of the backing foils brought up and wedged around the sides of each stone.

**Shared wall cloisonné** is typified by linear arrangements of garnet plates with two opposing straight sides - squares and rectangles, trapezoids, triangles and sections of circles. Any two plates are separated by a short, straight cell wall adjoining the side walls. If more than a single row of cells is used, parallel zones of cells are created with a shared wall between each zone. In cases where a
zigzag pattern is created, a single long strip of gold, probably shaped around a wooden mould, can be used to form a continuous cell wall.

In **band cloisonné** construction, each stone is completely surrounded by its own cell wall, essentially just a sequence of individual bezel settings soldered to a backing plate and sometimes to one another. This technique is often employed with curvilinear inlays or with plates in geometric shapes that are the central focus of a design pattern. Much Egyptian and Western Asiatic cloisonné was constructed in this manner, although cell walls shaped into the feather patterns characteristic of many ancient designs only partially surround each stone, leaving one section of shared wall between two inlays.

Band cloisonné allows somewhat greater flexibility in terms of stone size and shape than shared wall cloisonné, which generally requires careful grinding of stones for a neat appearance. The development and setting of unit-cells, single plates of geometric shape, was permitted by band settings adaptable to the sizes of individual stones (Chapter Three). It was probably from band cloisonné that **cloisonné à jour** developed. Once band settings had been fastened around each stone, these could be soldered to one another, and providing the walls were sturdy enough and the stones secure, the backing plate could be omitted to let light through the stones. **Framework cloisonné** also appears to have developed from band cloisonné, although in some uses of this technique the cellwork structure was supported by a thick bed of paste (Chapters Five and Six).

Despite the revival of substantial paste fillings in the fifth century, gold sheet and paste inlaying may be interpreted as a technologically simpler and chronologically earlier method of achieving an inlaid surface. Present evidence certainly suggests that the earliest datable garnet-inlaying was constructed in this manner, while it is difficult to date any band or shared-wall cloisonné before the third century AD.

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In contrast to Late Antique and Migration Period material, several garnet inlaid ornaments from the Roman period can be dated with relative accuracy. Two earrings, for example, come from the sealed context of Pompeii in Italy; another earring was excavated from stratigraphic levels at Hatra, Iraq. Several other ornaments from burials were associated with coins. It is possible that a few of these depositions, from the Armazis-khevi necropolis in Soviet Georgia, which appear to be successive burials over centuries, may have taken place quite soon after the latest coins placed in the graves. The growing archaeological evidence may someday permit a greater refinement of the relative chronology proposed here.

The first section below is confined to objects in the gold sheet and paste category, followed by a brief analysis of the present absence of examples of cellwork cloisonné with garnets datable prior to the third century AD. The second section discusses the evidence for third- and fourth-century shared-wall cloisonné in the Medallion and Rectilinear styles.

Gold Sheet and Paste Inlaying

The distribution of objects made in the gold sheet and paste technique, although very widespread, is weighted at present towards Western Asia and the Caucasus. This is not a particularly sturdy method of construction, which might have influenced the low survival rate of ornaments in this technique. Although no other objects are securely dated before the third century AD, one early example of gold sheet and paste inlaying appears on a pair of ear-rings recovered from the House of Menander in Pompeii (Cat. no. 9, Pl. 2.1). The eight oval garnets on the ear-ring are violet in colour and are presumably polished flat on both sides. This form of ear-ring in gold is known from the Hellenistic Period (Segall 1938, 98, pl.
Three other pairs of ear-rings in the Naples Museum, two from Pompeii and one with no provenance, are fashioned in a similar style, with flat glass inlays instead of garnets set into the oval openings (Siviero 1954, 73-4, pl. 192-3; Breglia 1941, pls xxv and xxva). As these are clearly variants upon the House of Menander pair, there can be no doubt that sheet and paste inlaying with flat stones was current in the third quarter of the first century AD and may, of course, have been used before then.

Evidence of a parallel development in the East comes from an inlaid amulet found by British investigators in a Buddhist stupa (the Ahin Posh Tope) near present-day Jalalabad, Afghanistan (Cat. no. 10; Pl. 2.2). A Roman aureus of Hadrian (AD 117-38) and a gold coin of the Kushan ruler Kaniska (probably second quarter of the second century AD) among the coins found with the amulet, provide a terminus post quem for its deposition.

While the polygonal shape of the Ahin Posh piece resembles a known type of tubular amulet, suspended horizontally by double loops, it is the largest surviving example and the only one inlaid in this manner. Similar amulets are depicted strung on breastpieces worn by Bodhisattvas in Gandharan Buddhist sculpture and some of these appear to be set with gems (Hallade 1968a, pl. 68). Two small, cylindrical examples of the same type were excavated from Parthian period blocks at Sirkap, dated first century AD, as were pendants of similar shape and size constructed of openwork gold over what Marshall described as "cores of green jasper and turquoise paste" (J. Marshall 1975, i, 159).

The majority of amulets of this form, however, come from within the Roman Empire and its client states. They seem to have become fashionable in the third century AD; some are filled with sulphur, others contain inscribed plaques (Heurgon 1958, 57-9; Ross 1965, 27). Despite considerable variation in decoration, all are of sheet gold formed into cylindrical or polygonal containers.
with two or three attachment loops and a capped, removable end. All clearly had protective, and probably magical or medicinal functions (Johns and Potter 1983, 25-6). None of the surviving western examples is inlaid in this manner.

The polished semi-circular cuts in the sides and at the end of the surviving green inlay on the Ahin Posh amulet recall the similar notching on Indian stones excavated from Taxila and Sirkap, datable from the fourth century BC to the first century AD (Fig. 16c; Beck 1941, pl. iii.19, pl. iv.16, 34, pl. vi.33). These anticipate the notches on omega-shaped plates from the second half of the fifth century used to key one cell into another (Chapter Five and Appendix III). The green inlay has been called a "palmette" by Arrhenius, whose line drawing incorrectly labels the oval garnet inlays as missing (Arrhenius 1985, 54-5). It seems more likely, however, that it is derived from one form of stylized ivy leaf (L. hedera) known in the Mediterranean world, such as those stamped in gold on a necklace from Pompeii (Breglia 1941, 62-3) or the leaves impressed on lead sarcophagi excavated near Tyr, Lebanon (ancient Tyre) of the first and early second centuries AD (Hajjar 1965, 61-104). Similar hedera shapes in green inlay were revived in Early Byzantine cloisonné datable to the second half of the fifth and early sixth centuries (Chapter Six).

Although nothing prohibits the Ahin Posh amulet from having been manufactured within the Kushan territories, the gold sheet and paste technique, the similarity of its oval garnet stones to those on the Pompeian earrings, and the "western" leaf shape of the green stone, suggest that such a piece could not have been conceived without mutual influences between the West and the East. The parallel developments in Indian and Roman bead making in the Imperial Roman period, reviewed in Chapter One, supports this interpretation.

Three other objects set with garnet plates in paste covered by sheet gold confirm the continuity of this technique throughout the second and third centuries
across the regions covered by the northern trade routes. A spherical gold fitting, possibly the top for a small sceptre or staff, was found at Batum, Soviet Georgia, on the east coast of the Black Sea with other items of Late Roman jewellery (Cat. no. 11, Fig. 22). The initial report of the find states that it is decorated with red glass (Pharmakowsky 1908, 162). This was a common error in the older literature on garnet cloisonné and it would take a modern re-examination to confirm which material was used. As red- and violet-hued glass for inlays was designed to imitate species of garnets, whatever the material used here, the find still confirms the continued employment of the gold sheet and paste construction. The other ornaments from the find have been dated to the second half of the second century AD on the basis of stylistic comparisions and the presence of a fibula set with a rock crystal engraved with a portrait of the Emperor Lucius Verus (AD 161-9) (Pfeiler 1970, 92-3). The emperor's dates, of course, can only suggest a terminus post quem for the assemblage, particularly as some objects, such as the ear-rings, are of a type conventionally dated to the third century.

Tomb No. 3 in the necropolis at Armazis-khevi, outside Tbilisi in Soviet Georgia, included a gold dagger hilt set with flat turquoises and garnets (Cat. no. 13, Fig. 26). This area appears to have been the necropolis for the governors (pitiaxes) and dignitaries (eristavi) of the Iberian capital of Mtskheta, with a number of chronologically-successive interments. The latest coins in Tomb No. 3 were aurei of Hostilian (AD 251) and Trajanus Decius (AD 251-3). The only human remains in the cist tomb consisted of bones placed on a large silver dish. In relationship to the rest of the cemetery, the excavators felt this indicated a reburial context. On stylistic grounds, they also considered the articles deposited to be somewhat older than the coins, dating the grave goods to the end of the second century AD and assuming the latest coins to be from the time of the reburial and erection of the tomb (Apakidze 1958, 277).
Arrhenius and Roth have published this hilt in relationship to Migration Period garnet cloisonné (Arrhenius in Roth et al. 1979, 125; Roth 1980, 315). Although the mid-second-century date proposed by the excavators for the hilt is doubtless too early (a finger-ring and two silver bowls in the tomb were third-century types), the date of AD 400 cited by Arrhenius may be too late for this piece, based on its design and comparable examples of the gold sheet and paste technique.

Garnet plates set as alternating ovals/circles and rectangles/rhomboids probably imitated this combination of large cabochon gemstones depicted from the second century onwards on sculpture from Western Asia and the Eastern Mediterranean. The collar of an eagle deity on a Parthian relief from Hatra (AD 187; Colledge 1986, 19, pl. xxxiva), the crown of a man of magisterial or priestly rank from the Eastern Roman Empire (late third to fourth century; Boston 1976, 102, no. 111), and a porphyry sculpture of an enthroned figure, possibly Diocletian (late third to early fourth century; Delbreuck 1932, 96-8, pl. 40) may be cited in this context. This specific combination of gem shapes was also applied to arms and armour (Chapter Three).

The Mtskheta hilt may be seen as a garnet cloisonné adaptation of this conventionalized status motif. Variants of this pattern occur on the material preserved at Kerch in the Crimea, while the rotated rhomboid and retention of broad areas of plain gold find parallels in other fourth-century Iberian and Crimean finds (Cat. nos. 20, 30). The gold sheet and paste technique of its construction, however, may support a date in the late third or first half of the fourth century.

Circular and rhomboidal garnet plates decorate the plaque from Wolfsheim, constructed in the same technique and firmly dated within the third century AD (Cat. no. 12, Pl. 2.3). The plaque was included in a Migration Period grave group, whose later cloisonné items are discussed further in Chapter Five. Its suspension as a torque pendant was probably a subsequent adaptation; early commentators
suggested it was originally suspended from a belt (De Linas 1877-87, I, 8-9; Ebert, 1914, 62). The presence of hinges could suggest that it was one side of a symmetrical ornament similar to the shoulder clasps or epaulettes known from fifth-century contexts (Chapter Five).

The back of the Wolfsheim pendant is engraved with a pointillé inscription in Pahlavi script, 'rthšr, which can be transcribed as 'Ardashīr'. Ebert's interpretation of the script as not later than AD 300 (Ebert 1914, 61) is upheld by modern scholarship. A.D.H. Bivar notes that the inscription is "in an elegantly calligraphed epigraphic style... similar to insciptional Pahlavi of the third century AD... certainly no earlier than AD 200, and most probably between AD 225 and 261" (personal communication 1989).

The presence of this name encouraged the speculation that the piece was among the spoils collected by the Roman emperor Severus Alexander when he defeated the Sasanian king Ardashir and was in his possession when the emperor was assassinated near Mainz (AD 235) (Von Cohausen 1873, cited in Ebert 1914, 58). Modern scholarship questions the attribution of such an object to a Sasanian monarch and would envisage a greater number of circumstances that could have brought such an object into western Europe. Nonetheless, it is interesting to note that one of the statements by Shapur I (AD 241-72, eldest son of Ardashīr) engraved in the rock relief monuments at Naqsh-i Rustam, Iran, explains the wars with Rome with the statement:

The Emperor Gordian raised an army of Goths and Germans from the entire Roman Empire and marched upon Asovestan against the emperor of Iran and against our person (Potter 1987, 152).

Given the close political and cultural relationship between Iberia and Persia from the Parthian period onwards, it is not unlikely that inlaid objects such as the Armazis-khevi dagger hilt and Wolfsheim plaque were being made simultaneously.
in Iberia and greater Persia. The Ahin-Posh amulet extends the range for this
technique further to the east, but whether garnet plates were being inlaid in this
manner in the western regions of the Roman Empire after the first century AD
cannot be confirmed at present.

Cellwork Cloisonné

At the present time no examples of cellwork cloisonné employing flat garnet
plates can be assigned a date earlier than the third century AD. The bias of
the archaeological record certainly distorts this picture, as band cloisonné and
shared-wall cloisonné with inlays other than garnet were certainly practised in the
first and second centuries AD. A gold perfume flask from the tumulus called
Khokhlach at Novocherkassk on the banks of the lower Don, for example, was set
with opaque red and green in rectangular and triangular shapes similar to those
found on cloisonné objects in the Medallion and Rectilinear styles reviewed below
(Comp. Pl. 5.1). The tumulus contained a high-status Sarmatian burial, assigned
to the first century AD (Minns 1913, 235; Zasetskaya 1975, 14).

There is also evidence of band cloisonné with enamels or glass inlays
preserved in Sarmatian contexts. A perfume flask and a necklace pendant, both
with heart-shaped inlays in enamel or opaque green glass, have been recently
evacated from Sarmatian kurgans in the Crimea and southern Russian steppe.
Both are datable within the Early Sarmatian period (first century BC - first century
AD) and may have been the products of Greek jewellers working at an urban
centre on the shores of the Black Sea (Florence 1987, nos 49 and 92).

The ornaments from Tillya-tepe in present-day Afghanistan, discussed in
Chapter One, illustrate the Kushan Period variants of band cloisonné. An inlaid
dagger handle from Burial 3, set with turquoises and lapis-lazuli, is particularly
interesting for the heart and thumbnail shapes it employs (Fig. 20). A silver coin of the Parthian king Mithradates II (ca 124/3-87/8 BC) and a gold coin of Tiberius (minted in Lugdunum, Gaul, AD 16-21) were included in the burial (Sarianidi 1985, 34-5, 242).

A pattern of rectilinear inlays decorated the pendant with hanging flask from Tomb no. 7 at Armazis-khevi (Cat. no. 6; Fig. 24). The front of the amulet, mounted with a high-relief ram’s head carved in amethyst, is surrounded by alternating cabochon garnets and turquoises. From the side, the circumference of the case may be seen to be decorated with flat inlays of turquoise, set in a row of rectangular cells similar to those on the side case of the Novocherkassk flask. The cylindrical clasps on either side of the loop-in-loop chain are again composed in turquoise cloisonné, while the attachment bosses are set with single circular garnet plates.

Opaque green glass imitating turquoise, combined with garnets, remained a primary feature of Late Antique cloisonné and, as Arrhenius has observed, of fifth-century Migration Period garnet cloisonné (although fifth-century glass inlays are often translucent green (Arrhenius 1985, 36)). On one surviving late fourth- or early fifth-century belt green glass replaces garnet entirely in a Medallion style pattern (JPGMJ 1984, 257). The polychrome combination of green glass/turquoise/emeralds with cabochon garnets/red glass, and often pearls, is found on almost every type of surviving Roman period ornament - ear-rings, necklaces, pendants, belt and sword fittings. Excavated examples are datable from the first to third centuries AD (Braidwood 1933, 62-8; Apakidze et al. 1958, pls i, ib, iv, vi.1, x; Chéhab 1986, pl. xxiv, no. S243-4). Procopius considered the four colour groupings that brought the most delight to be white, green, crimson (or purple) and gold; these were, of course, the imperial Byzantine colours (Mathew 1963, 88, 172). The same combination was recorded by Arabic writers as typical of the
costumes and crowns of Sasanian monarchs (Sarre in Pope 1938, 595-6; Ettinghausen 1972, 28).

The only Roman Period example of band cloisonné with garnets from a stratified archaeological context is an ear-ring from Hatra, Iraq, a major, autonomous caravan city during the Parthian period (Cat. no. 14; Fig. 25). It was found in excavated levels dating to the later second or first half of the third century AD. Here the three remaining garnets (two rhomboid-shaped and one oval), polished flat on the surface but with rough edges, are set adjacent to a crescent-shaped piece of green glass. Each inlay is enclosed by its own discrete cell wall, giving the piece the composite appearance often typical of this technique. Uniting the composition is a rim of beaded wire, a survival of an antique device that persisted on high-quality garnet cloisonné jewellery of the fourth and fifth centuries.

Burial no. 7 at Armazis-khevi also included a ring with a bezel composed of heart-shaped garnet plates in band cloisonné (Cat. no. 15; Fig. 23). Both the Hatra ear-ring and the Mtskheta ring (if an early dating is accepted for the latter) provide the first evidence of the setting of garnet plates in the simple Unit Cell Style, with geometric plate shapes set immediately adjacent to one another, surrounded by individual bands. This is one of the primary styles of ornamentation preserved in Hunnic Period finds such as those from Kerch in the Crimea.

It would not be surprising to uncover further evidence of cellwork cloisonné with garnets from the first three centuries AD, but the evidence from Western Asia, Soviet Georgia and the Crimea reviewed below does suggest an increase in the number of objects with this type of decoration later in the third and certainly by the fourth century. It may be that the consolidation of Sasanian power across Persia into the Late Kushan kingdom in Bactria and northern India in the late third or early fourth century (Harper 1978, 20-3) improved the availability of garnet
stones from Indian sources. These regions were subsequently occupied by the Chionites and Hephthalites, two tribes of Hunnic, or mixed Hunnic and Iranian origins, who continued traditions of garnet cloisonné in the East (Appendix II, Cat. nos 173 and 174; Pls 21.2, 3, Fig. 106).

The styles and techniques of garnet inlaid ornaments appear to have been similar across the trade routes, the Parthian/Sasanian territories bordering the Eastern Roman provinces and the Roman client states in Iberia, Colchis and Armenia. This section confirms that the evidence for the first methods of inlaying groups of garnet plates parallels the rise of individually mounted flat garnet plates in Roman Period jewellery. The range of plate shapes on these early ornaments (ovals, circles, rhomboids) are comparable to ringstone and bead shapes from the Roman Period, unlike the small garnet plates which characterise the styles of inlaying discussed below.

Medallion and Rectilinear Styles

Archaeological investigations in the past thirty years, particularly within the region of Soviet Georgia, have provided substantial evidence of the production of garnet cloisonné ornaments in a Late Antique rather than Hunnic mode. These may now be integrated with earlier discoveries made in the Crimea and southern Russia. A precise chronology of these Iberian objects cannot yet be asserted with certainty, but the earliest may date from the second half of the third century. The latest, on the basis of stylistic and technical comparisons, are probably contemporary with some fifth-century garnet cloisonné from the Crimea and Eastern Europe.

The objects produced in this phase may be conveniently grouped into two styles: Medallion and Rectilinear. These terms avoid any attributions of place of
manufacture, of which there may have been several, while accurately describing
the primary composition of the cloisonné cellwork. The majority of the pieces in
the Rectilinear and Medallion styles appear to be rendered in shared-wall
cloisonné. Most of the objects in these categories have plain gold foils beneath
the inlays; on many of them the edges of the foils are evident around the garnet
inlays, suggesting that the pieces were constructed from the bottom up, with the
stones placed on top of the foils as the final step. High-quality colour
reproductions of many of the objects from Soviet Georgia confirm these
observations (Javakishvili and Abramishvili 1986).

**Medallion Style** objects are generally oval or circular, with bordering inlays in
the shape of small rectangles, squares, triangles, trapezoids, or curved sections,
sometimes composed in concentric zones. **Rectilinear Style** designs are set with
rectangular or square garnet plates in a linear row or grid pattern. Both types
combine green inlays with the red garnets. One fourth-century grave group
contained objects rendered in both styles, confirming their contemporaneity by
that time period.

The danger with having so much material from a single geographical location
such as Soviet Georgia or the Crimea is, of course, the temptation to assume that
one area has primacy over others in terms of the invention or production of one
type of jewellery. The following account tries to avoid such assumptions, with
the view that the present record is almost certainly biased and may be affected by
future discoveries. The distribution of these objects, whilst heavily weighted by
the recent discoveries in Soviet Georgia, includes the northern and eastern coasts
of the Black Sea and Roman Syria. Objects from the Crimea are composed in
these styles, while variants of the Rectilinear and Medallion styles continue in the
fifth century on objects from eastern European, southern Russian and eastern
Persian contexts (Chapter Four and Appendix II). As the following discussion
suggests, whatever their places of manufacture, the objects are reflective of the high-status milieus of the regions bordering the Eastern Roman Empire in the Late Roman and Late Antique Periods.

Current evidence suggests that the earliest production in the Medallion and Rectilinear styles of garnet cloisonné had begun by the middle of the third century AD. A pendant from Hatra, with small wedges of garnet plates surrounding oval garnet inlays, was found near the north gate of the city, apparently not from sealed levels of the excavations (Cat. no. 16; Fig. 27). It has been called Parthian and dated to the second century or first half of the third century AD (Torino 1985, 427), a dating reinforced by the fact that the city was largely destroyed by the Sasanians by AD 250. Hatra was a long-abandoned ruin when seen by Ammianus a century later (Ammianus Marcellinus, II, xxv.8.5), but the nature and process of its abandonment was not recorded. It is known that after the collapse of the Arsacid monarchy, the city shifted its allegiance to the Romans and was incorporated as part of the Roman frontier system under Gordian III (AD 238-44) until sacked in the 240s.

Two other garnet cloisonné ornaments reflect Late Roman traditions of jewellery, which may support their dating within the third century AD. Tomb No. 2 at Armazis-Khevi in Soviet Georgia was a cist grave containing the skeletal remains of a woman and infant. Included among the grave goods was a cameo engraved with a dog, surrounded by a gold setting inlaid with curved sections of garnet, longer than they are wide (Cat. no. 17; Fig. 28). Cameos in agate of this type, more typically carved with profile heads, are generally dated to the third and fourth centuries (Brandt et al. 1972, nos 2815, 2872). Four aurei were found in the tomb, two of Septimius Severus (one minted AD 201), one of Philippus the Younger (247-9) and another of Valerian (minted AD 253-60).

The excavators of this necropolis proposed a succession of burials of several
generations on the basis of the coins included in the tombs (Apakidze et al. 1958, 276-9). The grave goods in the various tombs do exhibit a stylistic progression ranging from the second to the sixth centuries, and in some instances the production dates of objects may be in line with the time frame suggested by the associated coins. Harper, for example, has recently suggested on historical and stylistic grounds that the inscribed Sasanian-style silver bowl from Tomb no. 2 was manufactured close to the date of the Valerian coin with which it was found (Harper 1981, 30). Nonetheless, great caution must be exercised in proposing deposition dates based on these coins alone, particularly as much of the cloisonné in the Iberian tombs is paralleled by material in the Crimea, deposited with a range of artifacts datable to the later fourth and first half of the fifth centuries AD. In the case of Armazis-Khevi Tomb No. 2, the earliest deposition dates would fall in the second half of the third century, supported by the high quality of the cameo, but there is nothing to restrict the lower limits of that time frame, and deposition in the first half of the fourth century cannot be disallowed.

A jet bracelet from Grave 25 in a grave complex at Mtskheta, Soviet Georgia (not the same site as the eristavi deposits at Armazis-khevi), is also comparable to Late Roman forms which assist somewhat in its chronological placement (Cat no. 18; Fig. 29). A pinned bracelet in solid jet was excavated from Grave I in a family grave group at Pogradec, Albania, in a third-century context (Eggebrecht 1988, 424); another similar bracelet in the De Menil Collection in Houston has been dated from the second to third century AD (Hoffman 1971, 471).

The Mtskheta cloisonné bracelet, mounted with a gold cloisonné panel with a Rectilinear grid of square inlays, would therefore appear to be an elaboration of an established Late Roman type. The Iberian grave contained a Sasanian gold coin of Ardashir I (AD 226-42), in very worn condition. The first excavation report dated the finds to the third century on the basis of the coin; more recent publications
propose an extended range into the fourth century. In this case, a case for the production of the cloisonné in the first half of the fourth century may be justified.

Unfortunately, some garnet cloisonné ornaments from the richest contexts are the least susceptible to any stylistic comparison. The jewellery from the female grave at Ureki at the mouth of the Soupsa river on the Black Sea coast (the region of ancient Colchis ruled by the kingdom of Lazica) included a chain of hexagonal elements, those with simple triangular garnet plates alternating with links of openwork double-bow spirals around pointed garnet cabochons (Cat. no. 19; Fig. 30). The pointed cabochon garnets on the chain are a Late Roman feature; the appearance of the edges of gold foils around the stones characterises Iberian finds as well as the late fourth- and early fifth-century finds from Kerch in the Crimea. Otherwise there is little about these links to relate them to other examples of garnet cloisonné. Although Lekvinadze’s arguments for dating the grave to the late fourth century are weak and elusive (Lekvinadze 1975, 202-3), Damm’s suggestion that the material belongs in the first half of the fourth century must not be accepted without question (Damm 1988, 84).

Similar ambiguities cloud the assessment of the cloisonné pendant and belt buckle included in a richly furnished male grave, no. 13, from the Georgian excavations at Aragvispiri, a village in the Aragvsk canyon region outside Tbilisi, Soviet Georgia (Cat. nos 20 and 21; Figs 31 and 33). The pendant consists of three concentric bands of decoration, in red garnet and green glass surrounding an enamelled green quatrefoil on a blue ground. The buckle plate from the grave was set in Rectilinear Style with garnets and green glass, bordered by two rows of twisted wire. The garnets in both pieces appear to be underlain with plain gold foil.

A gold *aureus* of Valerian (AD 253-60) was the latest coin found in the grave. The skeleton in Grave no. 13 was stretched out on its back, facing west, a
position the excavators interpreted as evidence of the early adoption of Christian ritual among the wealthier members of society (in contrast to the flexed-posture, pagan burials). This and the other high-status graves at the site were assigned by the excavators to the immediately pre-Christian period, that is the late third to early fourth century AD. (The traditional date for the conversion of Iberia to Christianity by St Nino is AD 330.)

Additional clues for the date of the Aragvispiri deposition are provided by the numerous silver vessels in the grave, particularly one, placed under the man's head, decorated with a horse standing before a sacrificial altar. Similar bowls have been excavated elsewhere in Soviet Georgia, at Zguderi and Armazis-khevi (Tomb Nos 2 and 3). The latter tomb at Armazis-khevi included the dagger hilt inlaid in the gold sheet and cement technique (Cat. no. 13). The earliest possible deposition dates for both of these tombs fall in the second half of the third century (Harper 1987, 246-7). However, the fragmentary and worn condition of the silver bowl found at Aragvispiri suggests it may have been an heirloom, supporting a deposition date in the fourth century. The frequent inclusion of coins of Valerian in these Iberian tombs may not signify synchronous burials, but rather the circulation of or prestige attached to certain issues. There would seem to be little reason why the cloisonné from Aragvispiri grave no. 13 should not belong to the Christian, Late Antique Period (after AD 330).

Awareness of the cloisonné styles of the Aragvispiri pieces also affects the proposed third-century dating for other Medallion Style objects. The gold disc mounted upon a chalcedony pommel from the double burial at Adshimushkai, Kerch in the Crimea opened in 1841 combines rows of trapezoidal inlays with a zone comprised of a gold sheet over circular inlays (Cat no. 28; Fig. 32). The inlays have been identified as red and green glass (De Linas 1877-87, ii, pl. C1), or enamel and glass (Gaydukevich 1971, 445), but a visual examination of the piece
strongly suggests that the red inlays are garnet combined with green glass.

The tumulus included a horse burial and two gold impressions from a coin of Rhescuporis III (AD 234-5). The tomb has been interpreted as belonging to a member of the family of that Bosphoran ruler (Gaydukevich 1971, 444-5). This attribution and the traditional third-century date, implied by the coin-impressions, must now be reexamined.

The Adshimushkai pommel is solid, a superbly executed piece, in contrast to the gold sheet handle of its dagger set with individual teardrop garnets surrounded by filigree wire and marked with a Sarmatian tribal *tamga*. A similar juxtaposition of gold sheet scabbard fittings with solid cloisonné hilt ornaments characterises much of the Hunnic period weaponry of the later fourth and first half of the fifth century AD. The similarity of the type of rein distributors found in the tomb to examples in Kerch tombs would certainly support a deposition date within the fourth century. Likewise, the incorporation of circular inlays into the design is compatible with ornaments from Kerch and the Danube datable to the second half of the fourth and first half of the fifth century. The placement of a sheet of gold over the circular inlays is paralleled in a Rectilinear Style diadem from Iberia, whose context and provenance are unpublished (Cat. no. 30; *Fig. 35*). The device of combining zones of garnet cloisonné inlays around a zone of plain gold also appears on the Aragvispiri pendant. As there is little evidence of this treatment in Hunnic period ornaments, perhaps these should be considered as belonging in the middle third of the fourth century.

A belt buckle recently discovered in the region of Rostov-on-Don may be compared to the Adshimushkai pommel (Cat. no. 29; *Fig. 34*). No contextual information has been published to justify the second- to third-century date proposed for the piece which, again, would appear to belong to the range of production from the fourth and early fifth century. The opaque green glass used
on the buckle plate is consistent with the inlay materials in the Kerch finds. Its trapezoidal garnet plates, like those on the Adshimushkai pommel, are comparable to items from Kerch as well as some of the earlier objects from the hoards at Simleul-silvaniei (Szilágy-somlyó), Romania (Cat. no. 66).

Indeed, further comparisons with additional Iberian material tends to reveal increasing overlap with the Crimean material rather than the strict chronological precedence of the former. Burial No. 9 in the high status "Christian" group in the same Aragvispiri cemetery discussed above produced two garnet-inlaid rings and an inlaid medallion (Cat. nos 22, 23; Figs 37, 39). Their female owner had been interred in a garment spangled with round gold plaques in the manner of high-status Sarmatian dress; her earrings set with oval garnet cabochons in solid bezels are of a Roman type known from the first to third centuries AD.

The composition of the Aragvispiri medallions and rings may be compared with that of a torque or armring medallion from a grave at Bolshoi Kamenets in the southern Russian steppe in the Dnieper Basin (Cat. no. 24; Fig. 38). Two graves were found in the same area. The first, a cist tomb placed near the course of the river, contained rich Late Antique silver dated by control stamps to around AD 400 (Weitzmann 1979, 261-2; Kent and Painter 1977, 29-30, 55). The cloisonné medallion came from a grave on the hillside, the inventory of which appears to be female. The animal-headed bracelets from that grave are comparable to the bracelets from the Taranskaya Road and those of the 24.6.1904 Kerch tombs, which may be assigned to the first Hunnic Period (AD 380-420) (Chapters Three and Four).

If the second Bolshoi Kamenets grave is taken as an early Hunnic Period assemblage, how should the similarity of the inlay composition of its armring with the Aragvispiri objects be interpreted? Did these styles simply persist over several generations or were they revived by later generations? This would appear to be
the case with the simple Unit Cell Style, apparently practised in the middle of the third century but persisting into the first half of the fifth century. If not, could the Bolshoi Kamenets armring have been an heirloom? Should the southern Russian grave be placed at the early end of the Hunnic horizon or should the chronology of the Iberian graves be moved forward from the early fourth century to the post-Constantinian era, or even the later fourth century? On the whole it seems probable that much of the Iberian material should be dated in the fourth century. Until further material comes to light, its exact assignment within that time frame must be left open. With a few other objects, however, the parallels between the styles of production in the northern Bosphorus and Caucasus demand that the material from both areas be dated to the same time period.

A cloisonné pendant or buckle plate, a stray find in 1948 from Ureki, presents a sophisticated pattern of inlay (Cat. no. 31; Fig. 41). Although this object has frequently been associated with the Ureki chain of hexagonal links, this is speculative.9 Within a Medallion Style border, small rhomboids are combined with freely-shaped plates to form a floral or insect pattern in the central zone. Arrhenius interpreted the small projections to the sides as bull horns, with the entire pendant thus a *bucrania* (Arrhenius 1985, 163, 165). It seems more probable, however, that these are meant to be handles, and that the shape of the piece copies the class of amulets in the shape of flasks known from the Black Sea region (Skalon 1961, 126-40, figs 9-15). The free-form shapes of the garnet plates are unusual within the limited range of known Late Antique objects; the stones set in the handle projections may be compared with similar shapes on ornaments from Kerch deposited within the first Hunnic Period (AD 375-420) (*Pl. 5.6, Colour pl. IV.1*). Indeed the combination of a Medallion Style border, rhomboid-shaped and free-form plates are a typical fusion of elements on objects from this period.
A pair of earrings from Agaiani in Soviet Georgia, combining garnet and enamel, also appears to be a cloisonné imitation of an antique form, in this case Hellenistic and Imperial Roman insect necklace pendants (Fig. 45; Bokhotchadze 1981, 6; Paris 1982, 111). The head or body of the insect is suggested by a bean-shaped plate engraved with spirals, a type of plate preserved on Hunnic Period buckles generally dated from the late fourth to first half of the fifth century (Arrhenius 1985, figs 41-2; Damm 1988, 97-8, no. 5). The similarity of the acanthus-shaped garnet plate used to represent its body to a plate on the longsword scabbard panel from Kerch (Cat. no. 42; Colour pl. II.1) also supports a production date no earlier than the second half of the fourth century.

A superb pendant from the 24.6.1904 Hospital Street finds in Kerch, deposited in the late fourth or early fifth century, provides a classic example of Medallion Style cloisonné in the Late Antique Period (Cat. no. 26; Colour Pl. 1.3). Stylistically distinct from much of the Crimean material, the elements of the cornelian-set pendant correspond to those of other Medallion Style objects known from Georgia (Cat. no. 25, Fig. 36) - a border of alternating opaque green glass and garnet, a suspended pearl and green glass bead.

The overlap between the production in these two regions is even more obvious on a necklace, composed of alternating garnet cloisonné and granulated cylindrical beads, from Tomb 19 in the family burial areas at Armazis-khevi (Cat. no. 27; Fig. 40). The thin, convex rectangular garnet plates are closely analogous to garnet plates found on some objects at Kerch (Cat. nos 51, 60; Pl. 5.1, 5.2). Similar plates also appear on the border of a Sasanian medallion in the Louvre Museum (Cat. no. 172; Pl. 21.1). Although these particular cabochons are rare, cabochon bars of cylindrical or sub-cylindrical section are one of the characteristic shapes of high-quality late fourth- and fifth-century cloisonné. The employment of these cabochon bars is comparable in Iberia, the Crimea, Soviet Abkhazia, and Eastern...
Conclusions

Georgian excavators have suggested a fourth-century date for the Armaziskhevi family burials, located to the east and northeast of the richer ersithavi tombs, based upon a single coin of Constantius II struck between AD 353 and 361 found in Tomb 43 (Apakidze et al. 1958, 140-1, 279). Several authors have taken this as firm evidence of a fourth-century limit for all of these graves and the tendency to regard all of the Iberian material as not only the immediate chronological, but also the primary, predecessors to the Kerch and Migration Period objects is pronounced (Roth 1980, 312; Damm 1988, 84; Tejral 1988, 238). Roth hinted that the apparent exhaustion of the goldsmithing in Georgia might coincide with the blossoming of garnet cloisonné in the northern Pontus (Roth in Roth et al. 1979, 79), while Arrhenius went so far as to suggest that it was Iberian craftsmen fleeing the Sasanian invasion around AD 370 (no such date is recorded) who brought garnet cloisonné techniques to Constantinople (Arrhenius 1985, 120). Neither of these conclusions is supported by historical evidence.

Although there is evidence of conflict between feudal factions in the fourth and fifth centuries, there is little evidence to infer such decisive disruption in Iberian society upon its assimilation with the Sasanians. In the early fourth century both Armenia and Iberia were Roman protectorates; after the Sasanian invasion in AD 338 Iberia was partitioned west and east between the Eastern Roman Empire and Sasanian Persia, respectively (Der Nersessian 1973, 292). Just as the Iberian rulers in the previous centuries had ties with the Parthian royal family of the Arsacids, the first Christian king of Iberia was also the first ruler of the Chrosroid dynasty, a branch of the Mihranids numbered among the Seven
Great Houses of Sasanian Persia (Burney and Lang 1971, 204-6).

Free for the most part of the territorial claims that buffeted Armenia, the Iberians in the east and Lazis in the west enjoyed friendly relations with the Roman Empire, first as a client state and then as Christian allies. Domestic pottery and coinage in the Roman period in the kingdom of Egrissi or Lazica (reaching from modern Trebizond to Sukhumi) mirrors that of Cappadocia in Asia Minor; both private and ecclesiastical building there reflected Roman and Byzantine styles (Lomouri 1969, 213-16). Without denying the existence of local workshops or styles, it could be argued that the fashion for garnet cloisonné ornaments in Iberia and Lazica reflected those kingdoms' economic and political ties with Western Asia, where garnet cloisonné was almost certainly practised, but has not been well preserved. Furthermore it would be logical to assume that similar jewellery styles were current in Constantinople, following the substantial influx of Roman wealth and patronage there after AD 324. The decrease of evidence of cloisonné in the archaeological record from the region of modern Soviet Georgia is more likely to have been the result of the rapidly growing acceptance of Christianity in the fourth and fifth centuries, with the subsequent abandonment of inhumation with grave goods, than any wholesale transfer of goldsmithing skills to the Crimea or Constantinople.

Thus the exact nature of the relationship between related finds in the Crimea and Transcaucasia remains complex. Just as there is no longer any reason to suppose that garnet cloisonné from Ureki was necessarily made in the northern Pontus, as Lekvinadze proposed (Lekvinadze 1975, 202-3), the absolute priority of Iberia as the progenitor of garnet cloisonné remains to be proven. The surviving evidence suggests that related garnet cloisonné styles were known in Parthian and Eastern Roman Syria, the kingdoms of Armenia, Iberia and Egrissi, and ultimately in the Bosphoran kingdoms on the northern shores of the Black Sea. To advance a
priority claim for one centre of production would only highlight the meagreness of our information. Indeed, as the record expands, it seems probable that various workshops or artisans were operating simultaneously, imitating styles and methods of construction (Apakidze cited in Lekvinadze 1975, note 36; Damm 1988, 84).

Who these jewellers were remains unknown, but archaeology attests to the revival of the ancient Greek cities around the Black Sea in the Constantinian and post-Constantinian eras (Koromilla 1991, 91, 103-5, 145, 147-9). A renewed trading impetus, underpinned by the economic prosperity and stability of the Eastern Roman Empire, must be a considered primary factor in the dissemination of cloisonné styles. Garnet cloisonné represents to some extent a revival of Eastern Greek tastes, rooted in the Hellenistic emporia.

In the case of high-quality, high-status ornaments there may have been mechanisms of distribution outside the spread of popular styles between urban centres. Gift-giving or the patronage or even exchange of artisans between intermarried ethnic and political groups are possible models. Just as the Iberians had political ties with the Romans, Parthians and Sasanians, recent research has proposed a blood relationship between the ruling houses of Hatra and Palmyra and the Parthian Arsacids (Potter 1987, 154-5). The Iberians also maintained close relationships with Sarmatian tribes, and their aristocracy may have been intermarried with the Alans (Burney and Lang 1971, 195; Sulimirski 1970, 198). As the stylistic and technical overlap between the objects from Western Asia, Georgia and the Crimea becomes increasingly apparent, these factors also must be taken into consideration.

The evidence from both Iberia and the Bosphorus suggests that there was a renaissance of jewellery production in the fourth century, in the form of garnet cloisonné. Although the Armazis-khevi tombs may provide a missing link between the late Hellenistic/Graeco-Roman ornaments preserved in Sarmatian contexts and
the Late Antique Period, this cannot be taken for granted. More importantly these finds demonstrate that the rise of garnet cloisonné inlaying was not a result of Hunnic influence in the Bosphorus, as Zasetskaya has proposed (1979). The Iberian material is most likely to reflect Sasanian and Eastern Roman influences. Under these circumstances it is not unreasonable to assume that objects produced in the urban centres of the Sasanian and Eastern Roman Empires were similar to, and possibly more sophisticated than, the ornaments preserved in regions bordering their territories.

The continuation of the Medallion Style of inlaying indirectly confirms this hypothesis. One group of objects emerges from Sasanian and Eastern Hunnic contexts, where the style retains its application as a circular or oval border motif on suspended medallions (Appendix II). The second group of objects preserve the style on brooches derived from imperial Roman types and on plate fibulae worn by barbarian women in the Chernyakov culture areas in eastern Europe and southern Russia (Chapter Four). The primary inspiration for these objects should be sought in the wealthy cities and traditions of the Sasanian and Eastern Roman Empires, although provincial regions of those empires might have been influential in transmitting styles.

This interpretation should be borne in mind when considering the material preserved at Kerch in the Crimea. Although the overlap between the material in Georgia and the Crimea is significant, the ornaments discussed in the next chapter preserve another style of inlaying, distinct from the Medallion and Rectilinear groups. The origin of this style, the Unit Cell Style, derives from the tradition of mounting circular and rhomboid-shaped plates individually and in the gold sheet and paste technique on Roman, Kushan, Parthian and Sasanian jewellery. Chapter Three argues that the ceremonial weaponry, elaborate belt fittings and horse harness decorated with garnet cloisonné reflect styles of the Eastern Roman
Empire in the Late Antique Period adapted to functional forms introduced by "barbarian" tribes.

NOTES

1. Arrhenius used the term "clasped cloisonné" to describe both shared-wall and band cloisonné (Arrhenius 1985, 79-81, fig. 92). This term has not been adopted here because of the necessity to draw a clear distinction between the development of the different types of cloisonné particularly on the material from Kerch.

2. The absence of visible joins between any two gold surfaces on much Late Antique and Migration Period cloisonné suggests that a chemical process such as diffusion bonding, sometimes called colloidal hard soldering or the reaction method, might have been used. Modern experiments suggest this was achieved by the application of a copper salt or copper hydroxide to two metal surfaces secured with an organic glue; heat applied to the object dehydrates the copper hydroxide to copper oxide, in turn reduced by carbon in the glue to copper which alloys with the surrounding gold to solder the joint (Hoffman and Davidson 1965, 46-7; Ogden 1982, 64-5; Holmes in Johns and Potter 1983, 65-6).

3. Powdered limestone, bitumen and gypsum have been identified as adhesives in Egyptian, Sumerian and prehistoric Indian cloisonné (Ogden 1982, 75; J. Marshall, 1931, ii, 566). The mixing of limestones with fatty substances may have served the same purposes as wax resists in later cloisonné. One Indian study of the development of jewellery in prehistoric India notes that gypsum "is still used for inlaying shell and ivory as it is white and does not discolour the inlay" (Chandra 1964, 155).

4. The precise regnal dates of Kaniska, and his immediate predecessor Vima, within the chronology of the Kushan dynasty were a matter of fierce debate twenty years ago, with dates for his accession ranging from AD 78 to 120, 140, or even as late as AD 250 (Basham 1968; Soper 1971, 339-50; 1972, 102-13). Scholarly opinions in the West still favour an opening date for his reign in the second decade of the second century AD (Bivar 1970, 10-21; MacDowall and Wilson 1970, 239), but some Indian and Russian writers continue to prefer earlier dates (Pugachenko 1978, 7; Thapar 1985, 141). Of course, neither coin nor regnal dates can fix a date of deposition for the amulet.

5. Bivar notes that, if the object did belong to the king, it is curious that the personal name is given without titles. Other princes in the Sasanian family were called Ardashir and the name was a frequent one in the Sasanian period, but they also should have used titles. This also appears to have been the custom in the provinces under Iranian control. One of the earliest datable Sasanian silver bowls, from Tomb No. 2 at Armazis-khevi, carried a Pahlavi inscription marking it as the property of "Papak, bitaxs, son of Ardashir, bitaxs...". As Iberian leaders named Papak and Ardashir are recorded as holding the office of bitaxs (pitiaxes, or governor) under the first Sasanian kings, these may be the persons referred to on the bowl (Harper 1981, 30).

6. These are also the colours of the inlays on the shallow bowl, the "Cup of Chosroes", so favoured by early writers as the prototypical cloisonné object. Recent scholarship dates the central rock crystal engraved with a Sasanian or Sasanian-style monarch as sixth or seventh century AD, possibly of Central Asian origin (Harper 1981, 111-12). Arrhenius has argued that the frame might be earlier (Arrhenius 1985, 54-5), but it is difficult to conceive of this perfectly fitted object as anything other than a cohesive whole. What it does represent is one of the few surviving sumptuous objects which reflects the shared tastes and technologies of the Byzantines and Sasanians.
7. A very similar earring in the collection of the Brooklyn Museum was assigned to the sixth century AD, a date which now appears to be too late (Davidson and Oliver 1984, 183, no. 266).

8. An illustration of this buckle was shown to me in Leningrad, but I have been unable to acquire any further details from the museum in Rostov-on-Don.

9. Lekvinadze states they did not come from the same cemetery. His illustration places the object with its hinges at the bottom (Lekvinadze 1975, 203, fig. 6a). Arrhenius illustrated it as suspended from the Ureki chain, but both its provenance and the discrepancy in size between its hinges and the chain renders this unlikely (Arrhenius 1985, fig. 202). Javakhishvili called it a buckle plate, yet published it in a vertical position like a pendant rather than horizontally as that function would require (Javakhishvili and Abramishvili 1986, 73). Damm also assumed it to be a buckle (Damm 1988, 84).
CHAPTER THREE

GARNET CLOISONNÉ STYLES AT KERCH

The inlaid objects found in a group of furnished burials at Kerch (ancient Panticipaeum) in the Crimea expose styles of garnet cloisonné conceptually and technically different to the late third- and fourth-century material known from the northern Pontus, Soviet Georgia and Western Asia. Despite some similarities between the cloisonné in Georgia and the Crimea, many of the objects from Kerch contrast sharply in both function and composition with the Iberian ornaments. Geometric garnet plate shapes, such as those used in the Late Roman Period, appear on the Kerch ornaments, applied to a new range of forms. The setting of these garnet shapes was accomplished with a combination of band cloisonné and shared-wall cloisonné. From the standpoint of our present knowledge, the Kerch fittings appear to represent a distinct innovation, but of course the archaeological evidence of their antecedents may be lacking.

The surprising richness of the discoveries in the 24.6.1904 Tomb and Tomb 145, combined with the insistent arguments presented at the turn of the century by the Baron de Baye, led to the assumption that these ornaments represented the flowering of Gothic tastes and manufacturing (see Introduction). Modern interpretations, while proposing a range of ethnicities for the owners, have tended to see these ornaments as Bosphoran products, executed by established Greek jewellers working to the tastes of barbarian clients (Gaydukevich 1971, 445-6; Zasetskaya 1975, 19-21; 1982, 25, 29, 31-49; Damm 1988, 83).

The origin of the styles represented at Kerch, however, has remained obscure. Spitsyn, the first Russian scholar to analyse the Kerch cloisonné, assumed the
objects to have been imports, as there was no other evidence of workshops in Panticipaeum capable of such work (Spitsyn 1905, 116). Zasetskaya likewise notes that this aspect of the polychrome style cannot be connected with the culture of the Sarmatians, Alans or Goths (Zasetskaya 1975, 26). As Chapter Two has illustrated, there is indeed little garnet cloisonné known from the Bosphorus that can be conclusively dated earlier than the Kerch finds.

Zasetskaya has suggested that the appearance of this new polychrome style was due to the Huns (Zasetskaya 1979, 5-17). This observation is valid in a political sense, in that the rise of Hunnic power intensified relations with the Eastern Roman Empire. There is, however, as Zasetskaya observed, no evidence of Hunnic production of cloisonné (as opposed to cabochon-studded fittings) either before or after their assumption of political control in the Bosphorus ca AD 375 (Zasetskaya 1975, 25). Hunnic wealth may have spurred the production of cloisonné ornaments, but there is no indication that garnet cloisonné was part of their cultural heritage. Moreover, the silver vessels from the tombs suggest that the owners of the cloisonné began acquiring their high-status objects around the middle of the fourth century, before the Huns arrived.

Kazanski and Périn recently proposed that weapons such as those at Kerch could have been acquired by raiding expeditions (Kazanski and Périn 1988, 22). At the same time Kazanski follows the conventional interpretation that garnet cloisonné on related weapon types spread from the Crimea to Byzantium (Zasetskaya 1975, 19; Kazanski 1988, 76). Groups of Huns moved across the Caucasus ca AD 395 and raided Armenia, northern Mesopotamia, Syria and Palestine (Thompson 1975, 26-8). While it is certainly possible that objects such as the longsword from the 24.6.1904 Tomb was plundered in Asia Minor, the latter explanation fails to place the cloisonné in the perspective of the rest of the grave goods from the tombs and the status they imply for their owner.
While it seems probable that garnet cloisonné ornaments were at some point produced locally in the Bosporus, the designs they incorporated reflect Late Roman and Late Antique decorative traditions. These styles, and the execution of them with standardised garnet plate shapes, most probably spread to the northern Pontus from urban centres such as Antioch and Constantinople. The precise mechanism of this diffusion remains obscure, but the resources of the Eastern Roman Empire, combined with its unique military arrangements with its barbarian federates, allies and mercenaries, provide the most logical explanation of the rise of the styles of inlaying represented at Kerch.

The possibility that the fittings of the long sword from the 24.6.1904 tombs represent either actual products of a Late Antique imperial workshop or imitations of the same, forms the basis of the discussion in the first part of this chapter. There is some internal evidence to support this hypothesis, reinforced by the distribution and appearance of related styles and technologies on military equipment, jewellery and Christian objects from the fifth century.

The second section of the chapter analyses the objects at Kerch with technical and stylistic features that continue in fifth-century Byzantine and Hunnic cloisonné. A closer examination of the circumstances and range of the Kerch finds provides a background for these discussions.

History of the Kerch Tombs, Ethnic and Chronological Considerations

The slopes of Mt. Mithradates (the rocky bluff overlooking the city) in Kerch were used continuously as a burial area for the city from the sixth century BC to the Byzantine period (Rostovtzeff 1923, 102). Richly furnished chamber tombs on the northern slopes containing silver plate and cloisonné ornaments were first revealed by grave robbers in 1890 and 1891, but the largest surviving group of
inlaid objects appeared as a result of further plundering of a catacomb with a
double burial near Hospital Street on 24 June 1904. Some of those finds were
acquired by A.M. de Massoneau, whose collection is today in the Römisch-
Germanisches Museum, Köln. Subsequent investigations in that year by V.V.
Shkorpil of the Kerch Archaeological Museum of the same chamber tombs
produced the objects now held in the collections of the State Hermitage Museum
in Leningrad. In the following years a series of adjacent chamber tombs, some
plundered, others undisturbed, were explored by Shkorpil. The cloisonné material
discussed in this chapter derives from the double burial revealed on 24.6.1904 and
another disturbed burial, Tomb 145, at Kerch. The excavated chamber tombs
146, 147, 154, 165, and 176-180, some containing multiple burials, produced
broadly analogous grave goods, but almost no cloisonné. It seems clear that
garnet cloisonné ornaments were not worn by (or at least not buried with) other
wealthier members of the community.

The finds from the richest Hospital Street tombs, the 24.6.1904 double burial
and Tomb No. 145, included a wide range of garnet cloisonné objects - knife and
sword fittings, horse trappings, belt fittings, bracelets, ear-rings, pendants, and
numerous other miscellaneous studs and fittings. Other items, such as silver
vessels, plates, spoons and a folding military camp stool with silver lion head
terminals confirmed that these were high-status burials.

Recent Russian interpretations assume the 24.6.1904 Tomb to have been
those of a rich Bosphoran noble and his family (Effenberger et al. 1978, 30-1;
Zasetskaya 1982, 25), but the ethnicity of those buried there remains
controversial. In her recent catalogue of the Cologne collection, Damm, while
rejecting older suggestions of specifically Gothic origins for the Kerch cloisonné,
nonetheless concludes, on the basis of the bow fibulae and the connections
between the Kerch material and finds in Europe, that the owners were eastern
Germanic (Damm 1988, 83-4). In the three Kerch burials with cloisonné objects, these fibulae and a bone comb (Zasetskaya 1979, fig. 2.6, 32-3, 64) are evidence of the assimilation of elements that characterise the material culture of the sedentary populations of southern Russia and eastern Europe, called the Chernyakov culture (Chapter Four, Note 1; Kazanski and Legoux 1988). The bow fibulae are concentrated in areas where the Goths held political domination prior to the arrival of the Huns (Kazanski 1984, 7-10, Map 1).

A case can also be made for Sarmatian, or mixed Sarmatian and Bosphoran Greek ethnic origins of the people interred at Hospital Street on the basis of the method of burial and the inclusion of gold garment plaques, horse harness and funerary diadems. Chamber tomb burials were typically Sarmatian (Aibabin 1984, 122), garment plaques have a long history in Persian as well as Scythian, Sarmatian and Kushan dress (Artamanov 1969, 40, passim; Sarianidi 1985, 19-54; Rostovtzeff 1923, 115-16, figs. 8-10), horse harness was included in other Bosphoran burials from the fourth century (Rostovtzeff 1923, 117-18; Damm 1988, 176-7) and the funerary diadems represent a continuation of Hellenistic and Bosphoran Greek customs. Clearly the people buried at Kerch were well-integrated into the cultural traditions of the northern Pontus.

The terms "greco-sarmate" (Rostovtzeff 1923, 137) or more recently "greco-alano-sarmate" (Beck, Kazanski and Vallet 1988, 70) attempt to express the ethnic makeup of the Bosphoran nobility prior to the invasion of the Crimea by the Huns and Azov Alans in the 370s. The latter authors, however, underline the ambiguities created by the ethnic mixture existing on the peninsula. The fact remains that neither historical sources nor the mixture of items in the tombs can reveal precisely the ethnicity of their owners, much less the ethnicity or origin of the objects themselves. Indeed, to attempt to rigorously identify the objects with ethnic/tribal groups could be as misleading now as it has been in the past.

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One further element in the tombs that is purely cultural rather than representative of any particular ethnic tradition is the presence of Late Antique objects. These include both everyday items such as oil lamps and glassware as well as luxury silver plates, vessels and spoons (Zasetskaya 1979, fig. 1). The largitio dishes in the 24.6.1904 Tomb and Tomb 145, probably issued to celebrate the vicennalia in AD 343 of Constantius II, would have been presented by the emperor to the Bosphoran ruler or other high-ranking official on that occasion (Effenberger et al. 1978, 58-9, 62-4, 82-3, 132-4). The bowl with a beaded rim from the 24.6.1904 Tomb was probably also a donative type (Effenberger et al. 1978, 84, no. 3; Damm 1988, 78-9).

At least one of these plates was probably manufactured in Antioch, the favourite residence of Constantius after AD 337, while one other silver bowl from the 24.6.1904 tombs was also an import from the Eastern Roman Empire (Effenberger et al. 1978, 44, 47, 62-4, 82-5). These plates, like the rich silver vessels in Late Antique contexts from Europe and North Africa, were the products of the imperial silver workshops under the control of the Comes Sacrarum Largitionum (Count of the Sacred Largesses), whose factories were also responsible for minting coins, manufacturing gold crossbow brooches and ornamenting ceremonial arms and armour (Kent 1961, 35-45).

Such silver vessels gifted by the emperor testify to the direct contact between members of the upper classes in the Bosphorus and the Eastern Roman Empire. Scholars have recently argued that these men were either in active military service in the Eastern Empire, or as foederati received financial support from the Empire in exchange for military defence of the northern shores of the Black Sea (Effenberger et al. 1978, 30-1).

The largitio bowls not only attest to the imperial patronage and intercourse enjoyed by their owners, but also assist in establishing the time frame for dating
the tombs. The silver, the coin impressions found in the tombs, the types of Roman glassware, together with the *fibulae* and bone comb types establish a general time frame for the acquisition and deposition of the grave goods from the second half of the fourth to the first decades of the fifth century AD. The latest impressions on gold sheets struck against coins were from coins of Valentinian II (AD 375-392) (Zasetskaya 1968, 54; Tejral 1973, 15). 4

The *fibulae* from the 24.6.1904 Tomb and Tomb 145 (Ambroz' Group 21, Types Iaa, Iab, Iba and Ibb) fall in Kazanski and Legoux's Phase II/III/IV of Chernyakov culture types, beginning in the third quarter of the fourth century and extending into the first decades of the fifth century AD (Ambroz 1966, 76-91; Kazanski and Legoux 1988, 27-32, 37-8, pl. iv.61a and b, 69a and b). The hump-backed bone comb, in Kazanski's Phase II/III of Chernyakov types, has a long chronology beginning in the second third of the fourth century and extending to the middle of the fifth century AD (Kazanski and Legoux 1988, 24-7, 37-8, pl. iii.45, 51).

As valuable as they are, neither coin dating nor object typologies can fix a date for either the creation or the final deposition of the grave goods. The cloisonné objects themselves may well cover a time span of two generations if the disturbed chamber tombs represented family burials like the surrounding tombs. Russian researchers currently assign all of the Kerch tombs to the period from the last quarter of the fourth through to the first half of the fifth century AD (Zasetskaya 1968, 54-5; Aibabin 1984, figs 1, 4). Likewise some researchers continue to employ a broad chronology from the late fourth through to the first half of the fifth century for the cloisonné ornaments (Damm 1988, 82, *passim*).

Others, however, prefer a shorter chronology based upon known Hunnic period events. Zasetskaya divides the Hunnic period into two phases, ZCG-1a and ZCG-1b (Zasetskaya's Chronological Groups). The Kerch material falls in the first
group, reflecting "a phase of a certain political stability, which began after the expulsion of the Goths and Sarmatians from the northern Black Sea region and lasted until the Hunnic expedition to Pannonia (AD 378-425)" (Zasetskaya 1986, 108). Tejral, following Zasetskaya, has recently proposed a horizon for the 24.6.1904 Tomb and Tomb 145 at Kerch from ca AD 375-420 (his phase D1) (Tejral 1988, 237-8). This is the relative frame for deposition dates used in the discussion here.

As noted above, Zasetskaya interpreted the material culture of the Kerch burials, in conjunction with other finds from the first half of the fifth century, as inextricably linked to the Hunnic invasion (Zasetskaya 1968, 62). At the same time, she and other contemporary Russian and European scholars stress continuity rather than destruction of the settled urban and agricultural populations under the Hunnic overlordship in the Bosphoran region (Aibabin 1984, 122; Shchukin 1979, 17-22; Beck, Kazanski and Vallet 1988, 70).

The majority of the material reviewed in this chapter, on the basis of comparison with Georgian finds and European material discussed in the following chapter, is unlikely to be later than the first decades of the fifth century and there are grounds for dating some of it to the fourth. While some of the cloisonné ornaments are related to forms known from the Sarmatian and Hunnic Periods, the cloisonné designs and the garnet plate shapes themselves are derived from Late Roman and Late Antique vocabularies.

**Unit Cell and Mosaic Styles**

Before analysing the origins of the garnet cloisonné at represented at Kerch, a brief analysis of the two primary categories of decoration is useful. **Unit Cell Style** is the simplest, with garnet plates set immediately adjacent to one another in band
cloisonné and flanked by triangular plates. As reviewed in Chapter Two, designs constructed with simple geometric shapes such as circles, rhomboids and hearts, set immediately adjacent to one another in band cloisonné, may have begun as early as the first half or middle of the third century AD in Western Asia. Strap ends, strap distributors from horse bits, studs, as well as a pair of bracelets provide clear examples of this style of decoration at Kerch (Cat. nos 32-41; Pls 3, 4).

The primary garnet plate shapes of Unit Cell Style ornaments are:

1) Circles;
2) Rhomboids;
3) Hearts and hederae (ivy leaves);
4) Bean shapes; and
5) Auxiliary triangles (Fig. 4).

Although the linear arrangement of these plates was clearly intended to produce a decorative effect, in some cases the ordering of the geometric shapes replicates simple Late Antique mosaic patterns. Thus the alternation of circles and rhomboids on a set of strap ends (Cat. no. 33; Pl. 3.1), a pattern familiar from gold sheet and paste inlay objects such as the Wolfsheim pendant (Pl. 2.3), also has parallels on mosaics such as those recently excavated at Thurburbo Majus, Tunisia, datable to the second half of the fourth century (Comp. Pl. 6.1; Ben Abed-Ben Khader 1987, 7, 26-35. nos 258, 267, colour pl. 1, pl. xiv).

Another, technically more sophisticated, group of garnet cloisonné ornaments represented at Kerch displays geometric cells centred in rectangular fields. In place of a simple sequence of geometric plates, the placement of the plates within a surrounding border enables the creation of larger design units, whose combination leads the eye to read an overall pattern. The simple triangular auxiliary plates are replaced by rectangular plates with large notches. These are termed here Mosaic Style I. A Mosaic Style I design is most coherently expressed
on the scabbard fittings from the Kerch longsword. The rectangular scabbard pattern may be compared, for example, to mid-fourth-century floor mosaics such as those preserved in the Christian Basilica of SS. Felice e Fortunato in Vicenza, Italy (Comp. pl. 6.2; Zovatto 1963, 38-9, pl. 33).

Historically there is a strong interdependence between mosaic and metalworking patterns, particularly inlaying patterns, but this is nowhere clearer than in Late Antique garnet cloisonné. Riegl emphasised the significance of complementary shapes in the openwork metalworking that preceded garnet cloisonné (Riegl 1987, 266-90, fig. 67); more recently Arrhenius has compared cloisonné designs juxtaposing complementary cells to mosaic work (Arrhenius 1985, 57-8). Diamonds within linked circles creating a quatrefoil diaper, rhomboids or circles within rectangles, imbrication patterns, stepped rhomboids, guilloche patterns, together with alternating circles and lozenges are among the mosaic variants with parallels in metalworking and garnet cloisonné. The categorisation and analysis of these individual patterns is discussed in greater detail in Chapter Five.

In Mosaic Style I designs, geometric shapes from the Unit Cell Style are supplemented by:

1) Thumbnail shapes;
2) Cabochon bars;
3) Long rectangular plates;
4) Acanthus and palmette shapes;
5) Oval cells; and
6) Notched auxiliary cells (Fig. 5).

On the collar from Pietroasa individual plates are combined to create a representation of an insect (Cat. no. 48; Colour pl. III. 1). Likewise, the large thumbnail and acanthus-shaped plates on the longsword scabbard panel from Kerch intrude beyond the horizontal line established above them in an almost pictorial manner distinct from the geometric confines of fourth- and fifth-century
cloisonné cellwork. For the most part, however, the focus on individual geometric plates is as obvious on Mosaic Style I as on Unit Cell objects. On items such as the belt plate from the 24.6.1904 tomb (Cat. no. 50; *Colour pl. III.3*), individual plates are absorbed into the overall design and can be "read" only as interdependent shapes within the larger pattern. This is called Mosaic Style II and is discussed further in Chapter Five.

A subcategory of the Mosaic Style, drawing upon elements of both the Mosaic and Unit Cell Styles, also appears at Kerch. In the Cabochon Bar phase of the Mosaic Style, garnets ground as rectangular cabochons correspond to the maximum height or width of the geometric plates with which they are combined (Fig. 7). Such cabochons have been noted in the past (Garscha 1936, 192; Vierck 1974, 349-50, fig. 14), but the nature of their proportional function within cloisonné designs has never been explored.

The majority of objects in the Unit Cell Style and Mosaic Style I share certain features. As with many of the fourth-century Medallion and Rectilinear Style cloisonné objects preserved in Iberia, the garnet inlays are set on top of plain gold foils which are visible, particularly on the cruder examples, around the edges of the stones. The relatively thick cell walls are soldered to their backing plates and a cushioning white cement or paste layer appears to have been consistently employed between the foils and the backing plates. Green glass or enamel is used on both the Unit Cell and Mosaic Style objects.

Three technical innovations, however, appear on Mosaic Style ornaments. The first is the use of scored foils to heighten the reflective qualities of the plates (Cat. nos 52, 53; *Pls 5.4, 5.5*). The second is the use of translucent green glass, allowing such foils to be displayed (Cat. no. 49, *Colour pl. III.2*). The third is the method of assembling the garnet plates.

Although the majority of the objects at Kerch were constructed in band
cloisonné, portions of two buckles from the 24.6.1904 Tomb, as well as the collar from the Pietroasa treasure, were assembled by means of a framework of cell walls, soldered to the side walls, but not to the backing plates (Cat. nos 48-50; Colour pl. III.1-3). The stones set within them are therefore partially secured by a bed of paste in a fashion not dissimilar to, and perhaps derived from, the gold sheet and paste technique. This method remained useful in assembling three-dimensional objects, such as the polyhedral beads preserved at Kerch (Cat. no. 39; Pl. 3.5). This particular technique of construction, termed here framework cloisonné, characterises a group of ornaments from the fifth century which may be seen to reflect in various ways Early Byzantine traditions of garnet cloisonné manufacture.

Although it may perhaps be assumed that the Mosaic Style originated in areas of the Empire with exposure to both antique mosaic and metalworking patterns, the hypothesis that this style represents garnet cloisonné actually produced in the Eastern Roman Empire is difficult to demonstrate. Two factors, however, support this hypothesis. These are the remarkable uniformity of the size of the geometric plates at Kerch and the patterns into which the more sophisticated objects are arranged. The uniformity of garnet plates sizes is suggestive of small scale industrial or workshop production, certainly of the plates, if not of the ornaments themselves.

This, in conjunction with Mosaic Style patterns and proportional designs, forms the basis for an analysis of garnet inlaid ornaments that, it will be suggested: 1) developed in workshops with an inherited or revived tradition of lapidary production of ringstones and/or beads, and 2) reflect traditions of ornamentation characteristic of the Late Antique Eastern Roman and Early Byzantine Empires.
When the geometric garnet plates set as unit cells at Kerch are measured, the largest dimensions of seventy-five percent of the plates fall in a consistent size range, from eight to ten millimetres (Appendix III). It would appear that the repetitive circles, rhomboids, hearts and bean shapes were being consistently ground to a predictable scale. It is this regular size, combined with the limited range of shapes, that lends an initial impression of overall uniformity to the Kerch objects.

Three queries arise from the demonstrable uniformity of these plates. First, what are the precursors to this method of production? Secondly, what was the impetus for this sort of production and third, where was it most likely to have originated?

The answer to the first question has to some extent been advanced in Chapters One and Two which demonstrated that the circular/oval and rhomboid-shaped stones, two of the primary garnet plate shapes at Kerch, have antecedents in both Roman ringstone and bead shapes as well as in the garnet plates inlaid on third-century objects. There is clearly a visual relationship, but whether this constitutes a direct link with Late Roman Period lapidary technology remains to be proven.

There are traces of antique lapidary techniques on the Kerch unit cell stones. Some stones - for example, one individually mounted on a buckle plate (Spitsyn 1905, fig. 24; State Hermitage no. 1820.758) and others in their settings - are bevelled along the edges in the manner of stones prepared for ring settings. The presence of short horizontal grooves on the vertical bar of the scabbard chape in the Mosaic Style (Cat. no. 47, Pl. 4.4) is evidence of use of a small grinding wheel, such as those used for intaglio and glass engraving. If it is accepted that
similar lapidary techniques were used for the production of intaglio blanks, beads
and garnet plates, it is logical to assume that the gemworkers producing the
garnet plates for unit cell cloisonné naturally worked within the same general
limitations of stone and equipment sizes.

To test whether a case could be made for continuity of production of flat (or
flattened) garnet stones between the Late Roman and Late Antique Periods, a
comparison was undertaken between garnet ringstones and beads from the Roman
Period and the Kerch geometric garnet plates. This was based on size alone, using
the greatest and smallest dimensions of the stones. Appendix III details the
method of this investigation, the collections of intaglios analysed and the statistical
outcome of those investigations.

These investigations brought forward three significant facts. First, there is a
hiatus in the Graeco-Roman tradition of gem grinding in the third and fourth
centuries AD. There are quite simply insufficient intaglios in museum collections
datable to the Late Roman Period to afford a statistically valid chronological
comparison with the Kerch material. Garnets ground as bezels for Sasanian finger-
rings were the only other garnet stones being actively worked from the fourth to
the sixth centuries AD. The difference between the greatest dimensions of Late
Roman and Sasanian garnet bezels is statistically insignificant, while their least
dimensions are almost identical. This comparison supports a continuity of lapidary
traditions between the Late Roman and Sasanian Periods.

No statistically significant connection can be made, however, between the
dimensions of the Sasanian garnet ringstones and the Kerch geometric plates. The
Sasanian garnet bezels are consistently larger than the Kerch plates, their greatest
dimensions peaking at ten to eleven rather than eight to ten millimetres. This
divergence may be due in part to the Kerch material being a restricted and biased
sample, thus comparing a large and random body of information with a narrow and
specific one.

In contrast, Roman Period garnet *beads* in tabular and lozenge shapes were also consistently smaller in size than ringstones and closer in size to the garnet plates at Kerch, as well as to those set on the Dura-Europos *fibula* and the Wolfsheim plaque. This may suggest that larger stones were sorted for intaglio engraving or for shaping as large cabochons, while smaller ones, or perhaps shattered specimens, were relegated to bead-making and subsequently, cloisonné inlaying. The process of sorting stones by colour, translucency, weight/size, and accordingly value, must have been continuous from mining, trading, grinding and assemblage of the jewellery. If we assume that many of these stones were supplied from India, the Sasanians would have had first choice of the stones transported west along the eastern trade routes.

Beyond the physical limitations of stone and equipment sizes, the most logical reason for size control would be as an aid to consistent production of some quantity of similar objects. Predictable stone sizes aid the replication of similar objects, particularly if those objects need to be made several times over. This tends to suggest a workshop or related workshops geared up to produce similar items on a small industrial scale. This interpretation is supported by the fact that uniformly-sized garnet stones are a prominent feature of two other phases of Mosaic Style weaponry production in the fifth century. Cabochon Bar and Stepped Rhomboid sword guards are discussed in greater detail in Chapter Five. It may be significant that, with only a few exceptions (and two of those are Christian liturgical items in the Early Byzantine tradition), this type of standardised production was applied *only* to sword fittings.

As the Roman/Early Byzantine Empire was the largest manufacturer and supplier of arms in the fourth and fifth centuries, it is logical to search within the Roman Empire for evidence of what the impetus for this standardised production
might have been and where it might have taken place.

**Roman and Early Byzantine Workshops and Arms Production**

Modern commentators have interpreted the law in the *Codex Theodosius* exempting a wide range of artisans from civic duties as evidence for a serious shortage of skilled craftsmen in the Empire following the troubles of the third century AD (*Cod. Theo*. 13.4.2, AD 337; Kent and Painter 1977, 18; Hackens and Winkes 1983, 143). This situation is reflected in the decline in intaglio production in the Late Roman Period (Henig in Johns and Potter 1983, 30; Appendix III). The *gemmarii* (gem-engravers), for example, who appear on lists of imperial servants until the mid-second century do not appear on the fourth-century lists (MacMullen 1962, 165).

One law, issued shortly after Constantine’s death in AD 337, reads as follows:

...artisans who dwell in each city and who practise the skills included in the appended list shall be free from all compulsory public services, since indeed their leisure should be spent in learning these skills whereby they may desire the more to become more proficient themselves and to instruct their children (*Cod. Theo.*, 13.4.2).

The list includes *barbaricarii* (workers in precious materials), silver and goldsmiths, makers of perforated work, engravers, gilders, masons, ivory workers and marble workers (*Cod. Just.*, x, title lxiv.1)

The revival of state-sponsored crafts under Constantine after the founding of the new capital was manifested in the expansion of the state factories under the direction of the * Comes Sacrarum Largitionum*. In addition to supervising taxation and administration, the central finance bureau (the *sacrae largitiones*) supervised the mints (*monetae*), textile and garment mills (*gynaecae*), linen and canvas mills (*linyfia*) and purple dye works (*bafia*) (Kent 1961, 43).
The name *largitiones* was derived "from the technical use of the word in late Latin to mean 'military donative'" (Kent 1961, 39). Imperial gifts or "largesses", documented from the Diocletianic period onwards, could be awarded for bravery, upon promotion, on commemorative occasions, or simply as bonuses (or bribes) to the troops, foreign nations or the populace in general (MacMullen 1962, 159). In addition to coins (after AD 360 ordinary soldiers received a pound of silver and five gold *solidi* on the emperor’s accession and five *solidi* on five-year anniversaries), splendid silver *largitio* dishes, glass plates and dishes, jewellery such as rings, bracelets, torques, belt buckles, medallions and *fibulae* are among the recorded gifts (Kent 1956, 192-3; MacMullen 1962, 159-64). Some of these, such as crossbow *fibulae* in bronze, silver or gold, were most probably awarded according to rank in the imperial service (*militia*) (Kovrig 1937, 127)⁸ Army ranks of tribune or higher were rewarded with a complete military uniform, consuls were given palm-embroidered togas, as were senators, judges, governors and provincial officials (MacMullen 1962, 160).

The general population, trading classes, renters of state lands, and senatorial classes were taxed by various means to provide for these luxurious gifts (Kent 1956, 194-7). The production of these ceremonial items was limited to the factories under the jurisdiction of the *comes sacrarum largitionum*. Illustrations preserved in mediaeval manuscripts of the *Notitia Dignitatum* (a handbook of military high offices from the late fourth century AD) of the insignia of the *comes sacrarum largitionum* includes items such as buckles, strap ends, and plates among the palm branches, silver donative dishes and money chests (Omont 1911, pls 31-2, 75-6).

Swords, shields and armour are depicted under the products of the *magister officiorum* (Master of Offices) who, after AD 390, supplied soldiers with their arms, equipment and uniforms. The only passage in the *Codex Theodosius* dealing
with ornamental armour, however, is addressed specifically to the *comes sacrarum largitionum*, who supervised the skilled artisans working in precious materials (*Cod. Theo.* 10.22.1, AD 374; Kent 1961, 44; MacMullen 1962, 164).

In the Eastern Empire, two divisions of the *largitiones*, the *scrinium aureae massae* and *scrinium ab argento* received and weighed gold and silver ingots, and hallmarked these according to purity. The *sculptores et ceteri aurifices* (engravers and other craftsmen) and *barbaricarii* were the artisans in these respective departments working in precious metals and presumably responsible for imperial jewellery and ceremonial armour worn by the emperor as well as the *militia* insignia such as crossbow brooches (Kent 1961, 43-4; Hackens and Winkes 1983, 143). In contrast to the armourers (*fabricensis*), who served under the most menial conditions and were branded for life (Pharr 1952, 574, 582, *Cod. Theo.* 10.22.4, AD 398), the *barbaricarii* apparently enjoyed relatively high status (Kent 1961, 44). Although the surviving texts make no direct mention of gemworkers among these specialists, representations from the period of Diocletian onwards leave no doubt that high-ranking arms and fittings were adorned with gems.

Indeed, the presence of gems seems almost to be taken for granted in fourth-century texts, and is rarely mentioned. Certain laws in the *Codex Theodosius* restrict the setting of gems (on the jewellery worn by actresses, for example), but these are not as specific as the later laws in the Justinianic Code. 9 St. John Crysostome (died AD 407) notes that the imperial chair was encrusted with stones, as were the emperor’s gold horse and mule trappings (*Crysostome, De perfecta cavritate* 5, cited in Ebersolt 1923, 23). These certainly would have been products of the government factories.

Rhomboid and oval-shaped cabochon gems are carved on both the shield rim and the scabbard worn by the Emperor Honorius on the ivory diptych presented to the consul Probus, manufactured under imperial auspices ca AD 406, possibly in
Rome (Comp. Pl. 7.1; Volbach 1952, 22-3, pl. 1.1). Likewise the long hanging belt ends on a post-Constantinian porphyry statue of a high-ranking military officer, presumably fashioned from leather or fabric, are depicted as set with alternating rhomboid and circular gemstones (Comp. Pl. 7.2; Delbrueck 1932, 106-8, pl. 48).

Similar Mosaic Style motifs appear on silver owned by high-ranking military figures, on gold crossbow brooches and on the pallia (sashes worn over togas) worn by consular figures on ivory diptychs, all presumably manufactured in imperial workshops. Although restraint must be exercised against the overinterpretation of such an ancient and highly conventionalised motif, nonetheless its application in the fourth and early fifth centuries within imperial and official contexts cannot be ignored. Whatever its broader distribution, these particular patterns are relatively rare on garnet cloisonné and should be viewed in the light of Late Antique conventions.

Could ceremonial objects ornamented with garnet cloisonné have been produced by the sculptores et ceteri aurifices and/or the barbaricarii? There is no direct textual proof for this. One hint is provided by the text recording the construction of the gold labarum and cross erected for Constantine the Great at Philadelphion. Amongst the precious stones the cross incorporated ilex, the term which means cloisonné in texts from the fourteenth century onwards (Ebersolt 1923, 20, note 3, 26-7). Although Ebersolt wondered if it meant glass pastes or glass mounted like gems en cabochon, at this period another possibility might be that it meant cold cloisonné assembled with garnets and/or glass.

Another point in favour of the hypothesis of imperial manufacture of cloisonné may be the name barbaricarii itself. Although never satisfactorily explained, it would seem to suggest that either a) the craftsmen themselves were barbarian or b) that their products were destined for consumption by barbarians. Sword
fittings ornamented in garnet cloisonné would have been relatively cheap, easy to produce, yet impressive gifts.

It is not impossible that the Bosphoran nobles who were the recipients of largitio silver could have received garnet cloisonné from the same source. If this was the case, the origin of the Kerch scabbard ornaments and belt buckles was probably in an urban centre in the Eastern Roman Empire. The Codex Theodosius records that by the reign of Valens (AD 364-78) twin imperial workshops for ornamenting arms and armour were located in Constantinople and Antioch (Cod. Theo., 10.22.1, AD 374). Third-century garnet cloisonné finds from Western Asia suggest that workshops in a city such as Antioch could well have begun ornamenting arms and armour with cloisonné. Syrian soldiers at the time of Theodosius I (AD 379-95) were criticised by a contemporary writer for their "military effeminacy", as they had become "connoisseurs of gold and gems" (Libanius, cited in Hackens and Winkes 1983, 117).

Support for this hypothesis is offered by the unique and, unfortunately, badly damaged, neck collar from Pietroasa, Romania (Cat. no. 48; Colour pl. III.I). Present evidence supports the manufacture of the Pietroasa collar in Western Asia, in either the Eastern Roman Empire or Sasanian Persia, contemporary with cloisonné preserved in Iberia and the Crimea. Rigid neck collars of similar shape are depicted on sculptures from the first and second centuries AD at Hatra (Colledge 1986, pls xxvia, xxxa, xxiva) and on representations of male jewellery from the third to fifth centuries in Sasanian art (Musche 1988, 321-3, Type 4, pls cxii, cxiii). A cloisonné pendant from northern Iran preserves a palmette-shaped garnet plate similar to that preserved on the Pietroasa collar (Schulze-Dörrlamm 1986b, 914, fig. 99), and, as Roth has noted, the form occurs in enamel on two bracelets from Tomb 43 at Armazis-khevi (Fig. 44; Apakidze et al. 1958, 129, no. 229; Roth 1980, 314-15, fig. 2).
The combination of opaque blue and green inlays (in glass or lapis and turquoise), the size of the heart-shaped plates (eight by ten millimetres) and their arrangement in a simple Unit Cell pattern relate this piece to Late Antique production represented in the Bosphorus and Soviet Georgia. The empty rectangular cells on the collar, possibly originally set with cabochon bars, are proportional to the height and width of the geometric plates. Like the belt buckle tongues and loops from Kerch, the collar was apparently assembled with a framework of cells over a bed of paste.

The compositions of the collar and the Kerch scabbard panel are conceived in a similar manner, with geometric panels flanking floral/representational motifs. Both the floral cells (the acanthus at Kerch and the palmettes at Pietroasa) and their right-angled auxiliary cells are comparable to one another. The creation of a winged insect with these plates in the Pietroasa pattern is similar to that on ear-rings from Agaiani in Soviet Georgia (Fig. 45; Paris 1982, 111, no. 38, Dzhanashchia Museum, Tbilisi, no. 16-974:6). The Pietroasa collar, alternating Unit Cell and Mosaic Style I panels, suggests that cloisonné styles based upon geometric plates were practised simultaneously in Western Asia and the Bosphorus in the second half of the fourth and early fifth century.

A few plate shapes and objects at Kerch and Iberia illustrate the widespread Late Antique re-working of the classical vocabulary. The acanthus plate on the longsword panel, with a squared-off bottom and prominent centre lobe, is comparable to fourth-century silver decoration across the Empire (Kent and Painter 1977, 29-30; Cologne 1969, 101, no. 100). The thumbnail-shaped plates accompanying it may also imitate the fleshy leaves that alternate with the acanthus on some silver patterns. The employment of acanthus plates on the Agaiani ear-rings as thoraxes of insects recalls Hellenistic Greek and Imperial Roman fashions. The hedera-shaped plates on the Kerch strap ends (Pl. 3.2a) find
parallels in the *hedera* on the Kerch *largitio* dishes or the candelabra from the Kaiseraugst treasure (Kaufmann-Heinimann 1984, 32). These are witness to both a revival and a transformation of the symbols of the Graeco-Roman world.

In the same fashion, the bracelets with bean-shaped plates in Unit Cell Style belong to a well-documented Late Roman and Early Byzantine type, possibly reflecting Syrian styles (Cat. no. 35; *Pl. 3.3*; Lepage 1971, 16-20, figs 27-33). The use of rock crystal is rare in the fourth and fifth centuries, matched only by the similar cabochons on the round brooches from the second Simleul-silvaniei (Szilágy-somlyó) treasure and the rock crystal in the form of cabochon bars which originally decorated the smallest *fibula* from Pietroasa (*Colour pl. V; Pl. 22.2*). Both of these also stand in close relation to Late Antique traditions. The first brooches bear cloisonné versions of a Christian *chi-rho*, while the second is an example of a type of Roman brooch with imperial connotations (Chapter Four, Appendix V).

Such comparisons do not constitute proof that garnet cloisonné of this nature arose in urban centres within the Eastern Empire, but short of an excavated weapon or workshop, an inscribed garnet cloisonné ornament, or a significant inscription in Constantinople or Antioch, such proof will never be forthcoming. Both Unit Cell and Mosaic Style I patterns are found outside of the Crimea and in materials other than gold and garnet (Map 3). Their diffusion can be only partially explained by the expansion of Hunnic power and the Sarmatian and Gothic mercenary armies (Chapters Four and Five).

In spite of the lack of direct proof for this hypothesis, it must be considered whether this sort of production would have arisen initially in the Crimea. A taste for ornaments set with cabochon stones is not the same things as the capability to fabricate garnet cloisonné. While the importance of portable minor arts, such as textiles and silver, cannot be discounted, there is no evidence that either mosaic
or metalworking traditions in the Crimea were drawn upon prior to the Late Antiquity Period to create motifs similar to those found at Kerch. Likewise it must be queried whether the presence of a few plundered ornaments could have been sufficient to stimulate a school of production in the Bosphorus. Assuming such workshops were established in the Bosphorus, these probably drew upon the broader revival of Greek influence and jewellery traditions on all sides of the Black Sea.

Although it is probable that the ornamentation of arms with garnet cloisonné took place before or by the Hunnic Period, it must be recalled that the other chamber tombs at Kerch with a similar range of artifacts had no garnet cloisonné whatsoever. These ornaments were not available to everyone. The mixture of grave goods in the rich tombs, like the later finds in the Crimea and Pannonia, reflect a set of political, historical and cultural conditions that resulted in the preservation of some types of garnet cloisonné in burial contexts.

With the prominent exceptions of some garnet cloisonné in the Mosaic Style, much ornamentation in the fifth century moves further and further away from what might be construed as classicising models. If it is accepted that the garnet cloisonné plates on some Kerch objects were produced and assembled in awareness of Late Antique decorative conventions, it must also be acknowledged that in some instances these plate-shapes were applied to objects which characterise a non-Roman cultural background. The objects reviewed below illuminate these two trends and the extent of their overlap with one another.

**Variations in Quality and Styles at Kerch**

A closer examination of the cloisonné ornaments preserved at Kerch brings into focus the distinctions between the various ornaments which may represent
Eastern Roman versus local Bosphoran production. Any analysis of the relationship between the closely related variants of the Unit Cell types must remain speculative, yet certain aspects of the construction of these different ornaments demand interpretation. The best pieces exhibit accurately ground and polished stones, perfectly adjusted to their cellwork. Another grade of material is identifiable by a combination of well-ground and poorly-ground plates, and by cellwork designed to accommodate stones into fittings whose scale they do not quite match. There can be little question that these represent the work of two or more different hands.

On the superbly-constructed scabbard panel the notched auxiliary plates are neatly ground, the edges of gold foil barely obvious around each stone, and the smaller circular plates are perfectly consistent in size (eight millimetres set) (Cat. no. 42; Colour pl. II.1c). Various panel plates are ground with both large and small notches, features which characterise some later high-quality cloisonné. The artisan at work here had access to a range of stones and glass and had the capability to grind them accurately.

This is obviously not the case with many of the other ornaments in the Unit Cell Style found at Kerch. Even a slight variation in the sizes of the stones appears to have caused problems for the jewellers assembling the miscellaneous small mounts. On one scabbard mount (Cat. no. 36; Pl. 3.4) the one millimetre or so variation in size between the kidney-shaped plates lined up in a row of four necessitated the insertion of two small gold segments between the bands around two stones and the bottom of the fitting. Similar attempts to fill the gaps, as it were, appear on the bracelets and two small studs, both set with bean-shaped plates (Cat. nos 35, 38; Pl. 3.3, Colour Pl. 1.4). This suggests that the jeweller(s) assembling these particular ornaments either lacked the capability to grind stones accurately or were using pre-ground plates.
The well-shaped Unit Cell stones on the majority of the Kerch finds are surrounded by poorly-polished auxiliary plates of irregular size and shape. The strap ends with running hearts and *hederae*, the four strap ends with alternating circles and diamonds, the hilt with rhomboid-shaped inlays and the scabbard chape with a central vertical bar, are among the objects with the most noticeable difference between the primary stones and their triangular complementary shapes (Cat nos 33, 34, 41, 47; *Pls* 3.1, 2, 4.2, 4). Skilful burnishing of the cell walls over the junctions of the stones could hide such discrepancies fairly well, and was employed to this effect throughout the fifth and sixth centuries. These differences, however, are quite visible to the naked eye. Although conceivably the time and trouble it took to carefully grind small pieces to fit was simply not economically justifiable, it is tempting to regard this as evidence of a jeweller setting stones without easy access to a gemworker.

While sheer lack of skill cannot be discounted, if the jewellers constructing the cloisonné were forced to employ plates of varying sizes on the same piece, this tends to suggest that either they were reliant upon pre-ground stones, or that their supply of stones was not great enough to produce consistently-sized stones. Although fluctuations in supply and skill levels cannot be discounted, the group of ornaments reviewed above presents one of the stronger arguments in favour of trade in pre-ground stones. Recurring shapes, such as the heart and bean-shaped plates, have also been taken as evidence for centralised production and, *ipso facto*, trade in pre-ground stones (Bimson 1985, 127). This argument by itself is difficult to sustain, however, as it seems likely that any skilled gemworker could replicate such simple forms.

Nonetheless, it appears that if pre-ground garnet plates were traded, they would have been these very shapes in the fourth and first half of the fifth centuries. One Hunnic diadem, from Staraya Igren', is set with circular, semi-
circular and rectangular garnet plates in place of the cabochons usually employed on these ornaments (Kovaleva 1962, fig. 1). The diadem, one of the earliest within a series of similar ornaments, is dated within the first Hunnic Period (AD 375-420) (Kovrig 1985, 124, fig. 7.14; Zasetskaya 1986, 81-2). Other Hunnic ornaments are known which incorporate individual stones which must have been acquired by trade from urban centres (Chapters Four and Five).

It is probable therefore that the majority of objects deposited at Kerch were made by jewellers reliant upon pre-ground primary shapes. There are, of course, several ways to interpret this situation. Such differences could reflect two different workshops in the same region; a chronological distinction within a single workshop; or simply the cost of different objects. They could also suggest that superb objects like the rectangular scabbard panel, possibly imported from Eastern Roman ateliers, stimulated imitations by local artisans using pre-ground, traded stones.

Some objects, for example, appear to be imitations of the Mosaic Style, by an artisan working with inadequate materials. This may be true of the scabbard chape set with two circular and one rectangular plate (Cat. no. 47; Pl. 4.4, 4a), and even of the two lower hilt fittings traditionally reconstructed with the long-sword (Cat. nos 44, 45; Pl 4.3, Colour Pl. II.1). These are of noticeably lower quality than the other fittings, set with unevenly matched and shaped cabochon bars. Given their rather poor quality, it is perhaps too simple to see these lower fittings as prototypes for the series of cabochon bar sword guards from fifth-century contexts, which would be the implication of the conventional theory of the Bosphoran origin of garnet cloisonné. It is preferable to regard them as imitations of the Cabochon Bar phase of the Mosaic Style, whose development is traced further in Chapter Five.

In contrast, the two upper hilt fittings from the same sword are well executed.
in Rectilinear and Mosaic Style patterns (Cat. nos 59, 43; Colour Pl. II.1a, 1b).

Both the Rectilinear Style composition and the thin convex cabochon bars have parallels on ornaments from Iberia. In the case of the lower hilt fittings either the owner could not afford, or the jewellers did not have the capability to produce, fittings of the quality of the upper two mounts with cabochon bars.

The longsword fittings are diverse enough to suggest that, if the present reconstruction is correct, the elements may have been fabricated and added together at different times. It is also possible that the scabbard slide is an addition to the rectangular scabbard fitting. Its quality is neither as delicate nor its stones as well mounted and it sits uneasily against the rectangular panel (Cat. no. 46; Colour Pl. II. 1, 1c).

Such Sarmatian scabbard slides imitate Chinese jade scabbard slides developed in the Han Period (206 BC - AD 221) for use with ceremonial longswords (Trousdale 1975, 103, Form 1). The employment of such a fitting, however, is not, in and of itself, evidence of southern Russian workmanship, as scabbard slides of this and other types were known within the Roman army from the second century AD onwards, perhaps introduced by auxiliary troops from Western Asia (Appendix IV; Trousdale 1975, 106-8). Regardless of whether it was produced in an Eastern Roman or Bosphoran atelier, it seems arguable that the circle and rhomboid design of the scabbard slide cloisonné, like that of the leaf-shaped strap ends, echoes the conventionalised patterns of Late Roman and Late Antique arms decoration.

The questions of when and where and how this sort of adaptation occurred, however, remain. Are these provincial or "barbarian" versions of Late Antique motifs? If so, were they imitated with connotations of status or rank or simply because they were part and parcel of an ornamental vocabulary? If not, could these be actual examples of Late Antique military ornaments, reflecting the
adaptation of fittings to the weaponry of a predominantly barbarian military force? There is simply insufficient information to answer these questions.

These two strands, classicising models and their imitations, or Late Antique and barbarian elements, are distinctive at some moments, but completely enmeshed at others. Disengaging these strands, much less assigning them to geographical workshops, is a delicate and often impossible task. The ornaments examined below illustrate how the distinction between these two elements, while clear on some pieces, become increasingly interwoven on others.

Late Antique and Early Hunnic Period Traditions

Broadly speaking, the cloisonné objects at Kerch may be separated into two categories - those which have parallels in the fourth-century Late Antique and fifth-century Early Byzantine traditions, and those which reflect an adaptation of such traditions to Hunnic Period forms. The first group of objects has been outlined above - the Mosaic Style sword fittings, the bracelets and Medallion Style pendant. Other objects, such as the leaf-shaped strap ends and rein distributors, may arguably be seen as straightforward applications of pre-ground geometric plates to existing Sarmatian forms.

Likewise strap ends with rounded bottoms have a long chronology from the middle of the fourth century to the middle of the sixth century, and would appear to have been a development from Sarmatian types (Gening 1979, 99-100). In the Hunnic Period some are made of sheet gold set with individual cabochons; others are rendered in cloisonné (Zasetskaya 1975, 48-9, 55, 63; Gening 1979, E18, 19; Damm 1988, 99, no. 9). The examples at Kerch, rendered with cabochon bars at their bases are unusual, with later parallels in the Apahida finds in Romania (Cat. nos 51, 166; Pls 5.1, 20.6).
The double-headed goat plaques at Kerch are so closely related to Sarmatian cultural symbolism that they arguably could only have been locally produced (Cat. no. 54; Colour pl. IV.1). Zasetskaya has convincingly demonstrated their connection to Late Sarmatian and Hunnic representations. A series of gilt bronze sheets from Kurgan 46 in the Ust'-Labinsk cemetery beside the Kuban River depicting animals around a tree of life included a single goat with a curved horn, a stag, and a hare. The base of the tree itself was composed of double-headed, single bodied goats. The same grouping of animals around a tree appears on a Hunnic kolt (temple/hair ornament) from Verhnye Jablotshny in Poland (Zasetskaya 1975, 16). 15

The eye inlays are missing from these objects, but their construction suggests that the outer circles of each of them were filled with white inlay, possibly around a centre cabochon, in the manner of cloissonné production deposited in the second Hunnic Period in Europe (Chapters Four and Five).16 As becomes typical of some good quality regional fittings in the fifth century, unit cell plates, in this case one circular and two bean-shaped, are combined with notched triangular and rectangular as well as free-form plates. There is an echo of a Mosaic Style pattern in the shared body section, but clearly these are moving in a new direction.

The function of these plaques remains obscure, although they were certainly intended to be mounted with a rigid organic material (leather or thick felt?) between the gold cloisonné section and the silver backing plate. Their height is comparable to the Concesti eagle fitting (Cat. no. 125; Pl. 9.1, 1a ), which is backed in the same fashion. Matched belt fittings are one possible function for these small ornaments, although their attachment to some part of the horse harness is not out of the question; the cloisonné rein distributors at Kerch have similar silver backing plates (Cat. no. 37).

On another group of objects the distinctions between the Late Antique and the
Sarmatian/Hunnic elements are not so clear cut. Although a small fitting such as
the dagger pommel or sword bead from Tomb 145 (Cat. no. 56; Colour Pl. IV.2) is
congruent with Late Antique production in the fourth century, the conical pommel
from the 24.6.1904 graves, set upon an agate disc, presents a sophisticated
development upon the Medallion treatment (Cat. no. 57; Colour Pl. IV.3). This
was the pommel that accompanied the longsword from the 24.6.1904 Tomb.

Here the paste base for the cloisonné plates has been built up to create a
dimensional centre boss onto which curved garnet trapezoids radiate from a
central cabochon. These, like some of the cabochon bars, are convex in section.
The cell walls are secured to a central tubular cell in the manner of later fittings
from Apahida and Morskoy Chulek (Chapter Six).

A similar pommel from a double burial at Kerch Glinishche was found with a
silver scabbard slide and a pommel or sword bead with a Unit Cell Style panel on a
polygonal rock crystal base (Cat. nos 32, 58; Figs 42, 43). A diadem with an
impression of a coin of Maximian (AD 293-305) provided a terminus post quem for
the burial, whose grave goods should be seen as contemporary with the Kerch
finds in the Hunnic Period. Although pommels in semi-precious stone are known
from Sarmatian contexts, none prior to the Hunnic Period are constructed in this
fashion.

The three-dimensional form of these pommels, particularly the Kerch Glinishche
example, may be compared with the pommel represented on a silver plate from the
1891 Gordikov grave in Kerch, depicting a triumphant Roman emperor, probably
Constantine II (AD 337-61) (Comp. Pl. 8.1). The emperor is attired in trousers and
a short tunic with stripes of rank (clavi) and medallions (orbiculi) on the shoulders
and arms. His belt and baldric, as well as the harness of the horse, are depicted
as decorated with gems. This was the military costume and regalia typical of the
Roman Empire in the Late Antique Period (Delbrueck 1929, 36-40), but the long
trousers and belted tunic probably reflect influence from Iranian dress styles (Ebersolt 1923, 44; Harper 1981, pls 3-4, 8).

Matsulevich took the similarity between the real and pictorial pommels as evidence of the dish’s manufacture in the Bosphorus, but more recent scholarship assigns the plate to an Eastern Roman workshop active in the middle of the fourth century (Matsulevich 1929, 26, 95-100, 107, 109, 123, 136, pl. 23; Kent and Painter 1977, 25, no. 11; Effenberger et al. 1978, 78-81, pl. 1). It may be, of course, that this was how the emperor chose to be represented on an object destined to be sent to foreign allies. Such comparisons can reveal nothing about the origins of such pommels, but do serve as a reminder that military styles, including arms and armour fitments such as scabbard slides, even if introduced by a barbarian forces, were absorbed by the Roman military bureaucracy and dispersed throughout the Empire (Kazanski 1988).

In terms of the garnet cloisonné, the Kerch pommels are early evidence of the designs, gem-working techniques and materials characteristic of the highest-quality cloisonné fittings surviving from the following century. The dimensional pommel boss, for example, composed of curved plates secured at the top by a band and surrounded by small cabochons in individual tubular settings, finds its only close parallels on the horse *phalerae* from the rich finds at Apahida, Romania and Morskoy Choulek on the Don, datable to the second half of the fifth and early sixth century, respectively (Cat. nos 160-2; Pls 20. 1-3, Comp. Pl. 12.1-3). Aspects of these finds reflect Early Byzantine traditions of decoration (Chapter Six, Appendix V).

These pommels, like the longsword fittings, may be contrasted with another style of weaponry decoration represented at Kerch by a group of scabbard fittings from the 24.6.1904 chamber tomb set with single rows of rectangular cells (Cat. no. 60; Pl. 5.2, 2a; also Hermitage no. 1920/597). A reconstruction of three
similar fittings from Kerch in the Römisch-Germanisches Museum, Cologne, suggests the manner in which these might have been attached on a scabbard sheath of precious metal (Cat. no. 61; Pl. 5.3).

One scabbard mount from the 24.6.1904 finds is constructed with the cloisonné assembled on a separate panel, fitted to a double-curved backing by means of studs beneath the stones. The stones are finely ground and polished, with the central stone a convex garnet bar (Cat. no. 60; Pl. 5.2). Like the uppermost hilt fitting from the 24.6.1904 longsword (Cat. no. 59; Colour Pl. II.1a) the cloisonné itself relates to Late Antique production in Iberia.

Variations upon these narrow scabbard fittings appear in other southern Russian and European contexts datable to the first half of the fifth century AD. Whatever the origin of this type of fitting, there is little question that its diffusion took place within the Hunnic Period. Related fittings are found at Untersiebenbrunn, Austria, together with objects types of the Chernyakov culture, and in purely Hunnic contexts such as at Szeged-Nagyszéksós, Hungary (Chapter Four). Most of these are set with garnet plates of notably indifferent quality and are invariably flat, rather than shaped as double curves.

A striking exception to these is a scabbard panel presently in the Römisch-Germanisches Museum, Cologne, which was sold to Massoneau as having come from the 24.6.1904 tombs (Cat. no. 52; Pl. 5.4; Damm 1988, 65-6, 71-2, 95-103). This rectangular fitting may have decorated a scabbard mouthpiece, but is flat like Hunnic Period fittings from the first half of the fifth century, rather than recurved in the manner of the other 24.6.1904 Kerch scabbard ornaments. On the Cologne piece the three circular plates are centred, Mosaic Style, in rectangular sections, separated from one another by square cells set with blue glass. The foils beneath the garnets are stamped with a simple pattern of rhomboids (Damm 1988, fig. 12). Two other tiny panels in the Cologne collection,
with semi-circular cells, also bear gold foils stamped with patterns of squared-off cubes (Cat. no. 53; Pl. 5.5, 5a). If combined, these too would form a Mosaic Style pattern. 17

Three additional fittings, acquired in the Crimea and now in the British Museum, are also constructed with scored foils (Cat. no. 55; Pl. 5.6). The curved beak inlays on the bird panels recall similar shapes on the goat fittings from the 24.6.1904 Tomb (Colour Pl. IV.1), while the circular plates drilled with circles are a feature of ornaments in the West dated to the fifth century AD. The creative recombination of Mosaic Style rhomboids and Rectilinear plates into a new form is typical of higher-quality Hunnic Period work.

Combined with another strap end, these have been traditionally reconstructed as purse fittings similar to those known from later fifth- and sixth-century Germanic graves in Europe (Dalton 1924, pl. xxxvii.3; Menghin 1987, 112). The strap end, thicker in diameter and of different workmanship, however, should be considered separately. Moreover, the rectangular section meant to be centred between the bird heads is wider than either of them.

The individual elements of these pieces closely resemble another damaged fitting in the Hermitage collection. On this piece, however, the rectangular panels terminating in bird’s heads are oriented vertically with a rotated rhomboid between them; the rhomboid is in white inlay with a central garnet cabochon (Fig. 46). Another similar fitting from the first burial in Tomb 163 at Kerch (sixth century AD) can probably be interpreted as a scabbard fitting, perhaps from a knife or dagger (Fig. 47; Zasetskaya 1982, 20, fig. 5). A new reconstruction of the British Museum fittings in this configuration might be considered (Pl. 5.6a).

Features such as the flattened form of these scabbard fittings, the sophisticated foils and drilled garnets may be evidence that these are later than the majority of the Kerch 24.6.1904 Hospital Street and Tomb 145 finds. Scored foils
are used on one other small circular stud from the 24.6.1904 Kerch Tomb (Spitsyn 1905, 117, fig. 5; Hermitage no. 1820/669). Even counting these among the latest possible products of the Kerch deposits, they remain an uneasy reminder of how much material of this quality must be missing from the archaeological record.

It must be stressed that only glimpses of these styles and techniques appear at Kerch. None of them are consistently utilised, suggesting that either these were importations or that they reflect the beginning of a new phase of garnet cloisonné ornamentation. There are therefore, both technical and formal transformations on some pieces at Kerch whose parallels lie exclusively in the fifth century. These may be summarised as follows:

1) scored foils;
2) framework cloisonné;
3) garnet plates drilled with circles;
4) white inlay materials; and
5) exterior colleted pins.

These features have interesting repercussions. The use of scored foils, although developing slowly in the first half of the fifth century, eventually characterises almost all of the garnet cloisonné made in the second half of the fifth, sixth and early seventh centuries. Framework constructions, often incorporating cabochon bars or thin curved garnet plates in a three dimensional design, are employed almost exclusively on high-quality cloisonné in the Early Byzantine tradition. In contrast, exterior colleted pins, although they appear on the Mosaic Style buckles, soon characterise the majority of buckles constructed in the Hunnic Period, and the use of white inlays is a feature of both high-quality Early Byzantine and Hunnic Period productions.
Conclusions

A combination of stylistic and technical aspects suggest that the overall assemblage of ornaments in the Kerch tombs spans the Late Antique and the first Hunnic Periods. While much of the Unit Cell Style production appears to be related to fourth-century decorative conventions, these plate shapes began to be applied to fittings with non-Roman origins. The extension of the chronology of the tombs into the first and second decades of the fifth century, following Zasetskaya’s and Tejral’s proposals, allows for an overlap with the features which at present appear to characterise later fifth-century production.

One explanation for the parallels between the Kerch objects and high-quality Early Byzantine objects in the fifth century must be that they emerge from a related and continuous tradition. This chapter has proposed that this should be identified as a Late Antique/Early Byzantine tradition. The successors to the Mosaic Style of inlaying in the fifth century occur in contexts that may be considered Early Byzantine. Techniques such as framework cloissonné, scored foils and white inlays are found primarily upon higher quality objects which in one way or another also reflect that tradition.

It has been argued that the standard size of the garnet plates at Kerch is consistent with small-scale industrial production of both plates and garnet cloissonné. The shapes of some of the primary stones are drawn from a known repertoire of ringstone, bead and garnet plate shapes from the first to third centuries AD. It has further been suggested that the initial combinations of some of these plate shapes could only have taken place in a workshop fully acquainted with the official and more sophisticated tendencies of Late Antique ornamentation. Within the Eastern Roman Empire, this was most likely to have been within the official government workshops of the sacrae largitiones. The depiction of motifs
such as linked circles and rhomboids during the fourth century on other minor arts from imperial factories supports this argument.

If the existence of garnet cloisonné workshops within the Roman Empire cannot be confirmed, neither can they be denied. Both the existence of fifth-century cloisonné with Early Byzantine connections and the intensive organisation of every aspect of skilled artisan labour in Late Antiquity support the possibility that standardised cloisonné was an element of Late Antique production in urban centres. If a general revival of lapidary techniques is assumed, it is probable that the grinding of garnet plates as well as cabochons of various forms would have been part of the lapidary skills of the imperial ateliers. Furthermore, it is likely, in a governmental system where every precious commodity was tightly controlled, that the purchase and distribution of precious gems were overseen in some official manner.

It may be suggested, therefore, that the revival of craftsmanship in the Eastern Roman Empire led to an application of lapidary technology to the production of garnet plates for cloisonné. The sizes and shapes of these plates, probably derived, like the early inlay shapes in Western Asia, from Late Roman bead shapes, were standardised in order to expedite their inlaying on numerous objects. Although it will take more information to confirm these hypotheses, the role of official workshops in the dissemination of garnet cloisonné styles, as well as the emperor's largesses to military and civil officials, must be taken into consideration in future analyses of garnet cloisonné ornaments in the fourth and fifth centuries AD.

At the same time, the internal evidence of the Kerch ornaments suggests that some objects were created using pre-ground stones. It is not impossible that these also reflect production outside of the Bosphorus, as speciality jewellers within the imperial workshops were allowed to "moonlight" or sell their skills on
the open market (Kent 1961, 43). In line with Kent’s observation that arms factories were allowed to produce knives, but not swords, for the general public, and textile workers could supply cloth, but not of imperial purple shade, it could be suggested that cloisonné ornaments imitating imperial motifs might have been a permissible and popular line. The most convincing explanation of these distinctions, however, remains that local jewellers began to produce ornaments in imitation of Eastern Roman urban styles, and eventually, to their own tastes.

What role, if any, the Huns played at this stage is almost impossible to assess. There is little in terms of technique, design or concept of the Kerch ornaments that cannot be accounted for in Late Antique jewellery within and on the borders of the Eastern Roman Empire. This is particularly true in light of the thoroughly barbarised military complex of the period. Because of this situation, the production of fittings such as strap ends, scabbard slides and horse harness, while derived from Sarmatian/Parthian/Sasanian prototypes, could have taken place either in an Eastern Roman or a Bosphoran context.

Arrhenius’ hypothesis of central and satellite workshops for cement cloisonné, or Kazanski’s theories of the role of the Early Byzantine Empire in the diffusion of weaponry forms, express concepts similar to those advanced here (Chapter Five; Arrhenius 1985; Kazanski 1988). The stylistic categories established here provide a means to trace the evidence of the Late Antique/Early Byzantine objects that were subsequently copied throughout the Empire. The following chapter examines the evidence for regional as opposed to centralised production of garnet cloisonné in the fifth century. The contrast between those ornaments and the objects examined in this chapter, the latter with clear successors in Chapters Five and Six, presents convincing evidence of parallel traditions of manufacturing.
NOTES

1. The garnet-inlaid objects from the Kerch catacombs were published by Spitsyn in 1905, whose acutely observed remarks on the construction of the objects still remain useful (Spitsyn 1905, 115-26). Shkorpil also published regular reports of his excavations, but most of these are sparsely illustrated (Shkorpil 1904, 1905, 1907, 1909). I.G. Damm at the Römisch-Germanisches Museum, Cologne, has republished inventories of the 1890 and 1891 chamber graves as well as Shkorpil’s lists in German, with bibliographies and commentary on the better-known pieces (Damm 1988, 74-81, 194-202). I.P. Zasetskaya at The State Hermitage Museum, Leningrad, published small-scale drawings of most of the finds from the richest tombs, 24.6.1904 and nos 145, 154, 165, with inventories of the latter three in a European language since its discovery.

2. Arguments that these dishes were issued on the occasion of a fictitious vicennalia celebrated in Rome in AD 357, twenty years after the death of Constantine the Great, are reviewed in Effenberger et al. 1978, 63-4.

3. The plate from Tomb 145 bears the Greek letters ANTΩA, at the beginning of the weight notation. The authors of the most recent catalogue of Early Byzantine silver in the Hermitage argue that the letters ANT are analogous to the inscription ANTIOXIA on a silver bowl in Munich. The Θ may stand for the sacred largitiones, the department of the sacrarum largitionum, and the A (alpha) may mean the first workshop of the manufacturing unit (Effenberger et al. 1978, 44).

4. Two gold funerary diadems in the 24.6.1904 tombs, probably heirlooms, carried impressions of a coin of Sauromates II (AD 173/4 – 210/11) and of Gordian III (AD 238-44). Three solidi of Constantius II (types issued in AD 351-54 and AD 355-61) were also found in these tombs, as were thirty-eight gold pieces, struck against coins of varying periods from Sauromates I to Valentinian I (AD 364-75) and II (AD 375-92). One of the latter caused confusion because of its poor condition. Spitsyn’s publication of the latest impression as from a coin of Valentinian III (AD 425-55) was followed in some earlier literature (Spitsyn 1905, 115; Brenner 1912, 217; Kuchenbuch 1954, 16). Tomb 145 also contained an impression from a coin of Valentinian II; Tomb 154, grave no. 2, had a funerary crown with an impression of a Valentinian I coin (Zasetskaya 1968, 54; Tejral 1973, 15; Damm 1988, 81-2).

5. The comparison of garnet cloisonné to mosaic patterns should be understood in the sense of design and composition, not in terms of the process involved, as Arrhenius attempts to prove. Neither the shaping of tesserae into relatively rough cubes, nor the assemblage of dozens of these stones within a single unit of the pattern, can fairly be compared with the techniques of garnet cloisonné inlaying.

6. The distribution of these forms encompasses the Roman Empire with examples known from the first century BC onwards (Parlasca 1956, pls 1.2, 1.7, 17.1, 23.1, 50.1, 56.2, 61.3, 83.1, 84.2, 99.2; Zovatto 1963, pls 133, 135, 145, 156; Ovadiah 1980, 160, pls. xxiv, xxx, xlv; Dahm 1988, 429, 434-7; Florescu 1954, 140 figs 45, 47; Bojilova 1984, 80, fig. 15; London 1964, 58, xxiii.3; Ben Abed-Ben Khadar 1987, 7-8, 26-7).

7. Similar grooves appear on Late Roman glass vessels where they are also presumably made by touching the vessel against a rotating wheel. See Fremersdorf 1967, pls 34, 38-40, 42-4, 49, 56-7, 61, 68, 70, 72, 75-6, 78-81, 84, 103, 120, 127, 129, 155, 163, 200, 241, 255. Many of these are vertical wheel cuts on glasses dated from the third - fourth centuries AD.

8. Pharr notes that the governmental organisation in the Late Antique Period was so thoroughly
militarised that the term militia applied to civil as well as military service, although the latter generally received the special distinction of armata militia, armed imperial service (Pharr 1952, 584).

9. In the Code of Justinian for example, Book xi.xi.1: "no one shall hereafter be permitted to decorate the bridles and saddles of his horses or his own belts with pearls, emeralds or hyacinths, or to insert them therein. We, however, permit them to adorn the bridles and saddles of their horses and their own belt with other jewels. We order that hereafter all jewels of every description shall be removed from cucurnii, and that buckles which are valuable only for the gold of which they are composed, and their workmanship, shall be used on military cloaks" (Scott 1932, xv, 177-8).

10. The Ariadne lanx from the silver hoard from Kaiseraugst, Switzerland, includes a border of lozenges and circles, nielloed with floral patterns. Manufactured around the mid-fourth century, possibly in an imperial workshop in the Eastern Empire (Weitzmann 1979, 147), the lanx may have belonged to two successive magistri militum serving under the northern emperor Magnentius (ruled AD 350-3) (Kaufmann-Heinimann and Furger 1984, 12, 50-1, no. 61, pls 64, 67). Alternating circles and rhomboids and rhomboids in rectangles are among the motifs recorded on gold crossbow fibulae of late fourth-century type (Cochet 1859, 218; brooch from Devniya, Bulgaria, Varna Museum no. iii 445). Alternating circles and rhomboids appear on consular dress on imperial ivory diptychs issued in the fifth and sixth centuries AD (Volbach 1976, nos 2, 5, 6, 8, 35, 41, 54), and on aristocratic pallia in other contexts (Volbach 1958, 57, no. 61; Volbach 1976, nos 51-2). Circles enclosing diamonds decorate the medallions embroidered on aristocratic tunics on the mosaics at the Piazza Armerina in Sicily, probably from the Constantinian period (Dunbabin 1978, 201-12, pls lxvi.198, lxxvii.199-201). Similar patterns of lozenges within rectangles decorate the clothing of the imperial retinue on the early sixth-century Justinianic mosaics at San Vitale, Ravenna (Grabar 1979, 60, 62, 67, 70).

11. Alternating diamonds and circles are employed as a design motif on ninth-century BC Urartian objects (Pietrovski 1966, 278). Scythian style-akinakes from the sixth-century BC Kelermes mounds, where influences from Assyria and Asia Minor are particularly strong, bear the motif (Artamanov 1973, 22-3, pls 6, 7), as does a gold collar of third-century BC date in the Hermitage Museum collection in Leningrad with two rows of soldered bezels in lozenge and circular shape, originally inlaid with turquoises and stones or paste (Artamanov 1973, 173). In mosaics, while many of its contexts appear to be purely decorative (Zovatto 1963, figs. 133, 135-6, 138-9, 145, 156; Volbach 1958, 68-9; Ben Abed-Ben Khadar 1987, 7-8, 26-7), in at least one case, a frame composed of diamonds and circles surrounding a haloed representation of a woman from Saint-Monique, Carthage, the panel has been interpreted as an Empress or as an allegorical concept associated with imperial imagery. It is datable to the first decades of the fifth century (Dunbabin 1978, 146, 251).

12. It should be noted that Musche's drawing of the Pietroasa collar cloisonné pattern is highly inaccurate (Musche 1988, pl. cxviii).

13. In its present, heavily-restored state the collar appears to have one openwork sheet of gold laid over the top of another with the stones held between them, presumably supported by paste filling the space between the framework construction and the gold sheet backing. The term à jour which Arrhenius and Harhoiu apply to this object is therefore incorrect here, as â jour work by definition has no backing plate or paste support (Harhoiu 1977, 20). Arrhenius proposed that the paste, which was not crystalline and therefore not susceptible to testing by the X-ray diffraction method she used, was organic (Arrhenius 1985, 81). A substance like bitumen, known on other Sasanian jewellery, would make a lightweight filling for such an object.

14. The aperture walls are broken on the Kerch slide, but must have functioned like those of Chinese slides and their Sarmatian variations, with the slide bound to the scabbard through the...
upper aperture and attached by means of a leather strap through the lower aperture. Although two Chinese slides are known from Southern Russian sites, there were probably Sarmatian or Parthian intermediaries between the far Eastern and Southern Russian versions of this device (Trousdale 1975, 103-9; Appendix IV).

15. Esin interpreted these in the context of proto-Turkish and Turkish cosmological concepts (Esin 1975). There is also evidence that similar representations may have existed among the Hunnic tribes in the Eastern Eurasian steppes. A bronze belt ornament in the shape of double-headed horses dated to the first century BC was recently excavated at Xigouban, Zhunger Banner, Western Inner Mongolia; it has been related to belt types favoured by the Xiongnu (Hsiung-nu) (Bunker et al, forthcoming).

16. Mother-of-pearl or pearls survive on a few pieces (Cat. nos 112, 125), but the deterioration on the Kerch plaques and many other Hunnic Period ornaments suggests a softer material, perhaps meerschaum (hydrated magnesium silicate) (Menghin 1987, 110) or one of the many white materials (shell, magnesite, cristobolite, bone, ivory, or calcite ) such as those identified in later Anglo-Saxon inlays (La Niece 1988, 235-46).

17. As they have no visible means of attachment, Damm proposed that these functioned as gaming pieces, but it is equally probable that, like the British Museum pieces (Cat. no. 55), they were originally affixed to a backing plate by means of a cement which has dissolved.
CHAPTER FOUR

REGIONAL CLOISONNÉ IN LATE ANTIQUE STYLES

This chapter deals with ornaments from Europe, southern Russia and North Africa which apply Late Antique styles of cloisonné to provincial, "barbarian" forms. In some cases there is convincing evidence for their production in regional workshops. The appearance and nature of the material in the first two sections of this chapter may be contrasted with the contemporaneous material in the third section of the chapter and in Chapter Five, which reflect the trends of Early Byzantine production.

All of the objects in this chapter have in common their stylistic derivation from the Late Antique garnet cloisonné ornaments discussed in the previous two chapters. Because of this, the categories of stylistic classifications outlined in Chapters Two and Three have been retained. Phase II of the Medallion, Rectilinear and Unit Cell Styles incorporates objects whose general compositional principles are contemporaneous with or derived from fourth-century Late Antique ornaments. The Medallion Style category is represented by a group of fibulae decorated with both garnet plates and cabochons, the large majority from the second hoard at Simleul-silvaniei (Szilágy-somlyó) in present-day Romania.

A considerable number of simple Rectilinear Style cloisonné objects survive from European and Russian sites in the first half of the fifth century. A few of these compositions are of high-quality, but in general cloisonné ornaments which combine circular or rhomboidal plates with square, rectangular or triangular plates reflect better workmanship. This is the sort of composition noted in Chapter Three on such objects as the double-headed goat plaques from Kerch or the bird-headed mounts in the British Museum collection (Cat. nos 54 and 55).
Examples of these hybrid styles, which unite geometric plates and rectilinear plates are analysed in the second section of the chapter and are broken down as follows. When the circular plates are centred within a border, this is termed a **Rectilinear and Mosaic Style combination**. Circular or rhomboidal plates set adjacent to one another with a border of square or rectangular plates are referred to as **Rectilinear and Unit Cell combinations**. The final section of the chapter examines groups of objects which reflect an even closer awareness of **Mosaic Style I** and which may represent regional production in Late Antique styles in the first half of the fifth century.

There have been numerous attempts to construct workable chronologies for the first half of the fifth century. These all remain relative, and future investigations could alter the boundaries of the successive phases or horizons put forth by various scholars. It is prudent to recall that there are few coins associated with the objects in this chapter, and despite the understandable efforts of researchers to associate specific tribes with particular assemblages, demonstrable connections between historical events and the archaeological evidence remain elusive. **Cloisonné objects** found in Western Europe, the Iberian peninsula and North Africa, which superficially appear to reflect the movements of Germanic and Sarmatian tribes, in particular deserve examination independent of the recorded dates of ethnic migrations.

**Hunnic Period Chronology and Chernyakov Material Culture**

The first two sections of this chapter examine ornaments found in two quite specific cultural horizons, which are referred to here as the Chernyakov culture and the Hunnic Period. The latest phases of the Chernyakov cultures are simultaneous with the historical Hunnic phases from approximately AD 375/380-
420 and 420-455 (Shchukin 1979, 2).

The cloisonné plate fibulae in the first section of this chapter are derived from types characteristic of the material culture of the agricultural populations in eastern Europe and southern Russia in the Late Antique Period (Kazanski 1988, 16). The very uniform material culture of these people extends within the steppe and forested steppe zones in southern Russia and eastern Europe from the late second through to the fifth centuries. In this text the term Chernyakov, the site name of one of the largest representative cemeteries of these populations, is used to describe the material culture in these areas. This term purposefully avoids assigning any ethnic or linguistic association to the burial deposits discussed here. These sedentary populations, of mixed linguistic and ethnic origins (German, Iranian, Thracian, Slavic), lived first under the political control of the Goths before being subjected to the overlordship of the Huns. ¹

A recent seriation analysis of the Chernyakov culture established clusters of object types and proposes five overlapping phases (Fig. 11; Kazanski and Legoux 1988). Amongst the key object types of this culture in the Chernyakov region are: bone combs, plate fibulae, fibulae with returned feet, as well as specific types of pottery and Roman glassware. In the fifth group (Phases III/IV/V) polyhedral earrings, conical shield bosses, cast metal mirrors, buckles with square or rectangular plates and hinged horse harness fittings appear. Some of these reflect Hunnic or more broadly nomadic influence, while others characterise the new forms developed in the Migration Period.

Many of the individual object types within the clusters assembled by Kazanski and Legoux have parallels in northern Europe, the middle Danube, the Crimea, Abkhazia, and the Mediterranean Basin in the Late Antique Period (Kazanski and Legoux 1988, 7-37). Phase III/IV/V, in which objects related to some of the cloisonné discussed in this chapter belong, is dated from the last third of the
fourth to the first half of the fifth century (Kazanski and Legoux 1988, 37-8, pl. v). This phase correlates to Tejral’s phases D1 and D2 (AD 375/80-410/20 and AD 410/420-445/450, respectively), one of the most recent chronologies based on artifact clusters along the middle Danube.

Tejral’s chronology, orientated within the context of the historical Hunnic Period (AD 375/380 - 450/454), replaces older chronologies which defined an "Untersiebenbrunn" horizon, extending from the end of the fourth through the first decades of the fifth century (Kubitschek 1911; Kuchenbuch 1954, 16-19, 50; Keller 1967, 110-11). One of the primary features of this horizon is the appearance of garnet cloisonné among the depositions. There has been a shift in the last ten years in the conception of the limits of the deposition dates for material in that horizon (compare Tejral 1973 to Tejral 1988; Kazanski 1982, 21-4). Current scholarship tends to advance the beginning deposition dates for objects in that horizon to the second decade of the fifth century AD, based upon two historical phases within the Hunnic Period. The first phase is seen as a period of consolidation of Hunnic power in the region of the northern shores of the Black Sea from circa AD 375-420/425 and the second the expansion of the Hunnic confederacies into Europe from circa AD 420/425-455 (Fig. 11; Harhoiu 1980, 102, AD ±380-430; Tejral 1988, 265, Horizons D1, D2). Within strictly Hunnic find complexes (where garnet cloisonné is rare), Zasetskaya recognises one group of finds which extends from AD 378-454 (ZCG Ia), while another is synchronous with the Pannonian phase of the Huns, ca AD 425-54 (ZCGIb) (Zasetskaya 1986, 87-8, fig. 1).

From a central and eastern European perspective, the Hunnic invasion of Thrace in AD 421/22, the Roman surrender of the province of Pannonia I to the Huns in AD 433, and the consolidation of the Hunnic confederacies that culminated in Attila’s reign (AD 432-54), are critical historical events that shaped
the nature and circumstances of depositions. For example, it has been argued that some depositions with cloisonné weaponry and horse-harness fittings, such as those at Jakusowice, Poland, and Szeged-Nagyszéksós, Pécs-Üszög and Pannonhalma, Hungary, may be related to burial customs practised in the steppes. These Totenopfer, or commemorative offerings/sacrifices most probably took place within the decades of Attila's overlordship along the middle Danube (Tomka 1986, 467-75; Tomka in Menghin 1987, 159-60, 180-1). As with the Chernyakov material culture, however, many of the artifacts within these two Hunnic phases are broadly related, and it is only after the death of Attila that marked distinctions in Hunnic depositions within Russia occur (Zasetskaya 1986, 83).

Depositions in the Hunnic Period included one or more of the features of the material culture that Werner and others defined as characteristic of these nomadic tribes - reflex bows, hard wooden saddles, three-sided arrowheads of a specific type, large metal cooking cauldrons, diadems mounted with cabochon gems, cast metal mirrors, sword beads and scabbard slides, and artificially formed skulls (Alföldi 1932; Werner 1956; László 1951; Maenchen-Helfen 1973). Some of these object types such as metal cauldrons, hard wooden saddles, and reflex bows, were introductions into southern Russia and eastern Europe by the horse-riding, nomadic people that ancient writers called the Huns. Other objects and features were developed during the Hunnic Period as these tribes came into contact with existing Chernyakov cultures and Alano-Sarmatian cultures in southern Russia, eastern Europe and the North Caucasus.

Thus Hunnic Period material culture is an aggregate of forms, not all of them peculiar to the historic Huns, but rather reflective of the needs and tastes that arose among the military confederates serving under Hunnic leadership. The term 'Hunnic' as applied to garnet cloisonné objects reviewed in this chapter must therefore be qualified somewhat. Although some items with poorly-ground garnet
plates, such as the numerous buckles (not included in this catalogue), strap ends, horse harness and sword fittings may arguably represent products of Hunnic artisans, many of the higher-quality objects preserved in Hunnic contexts may reflect other manufacturing traditions altogether. Thus the term Hunnic in the context of this chapter generally refers to the Hunnic Period or a Hunnic context. This reflects political dominance in the first half of the fifth century rather than any particular ethnicity, cultural attributes or workshop tradition.

The first section of this chapter examines the garnet cloisonné ornaments whose distribution is broadly within the region of the Chernyakov culture. Parallels for the decoration of the precious metal settings of these objects reflect the influence of provincial Late Antique metalworking. The objects in the second section of the chapter have a much more widespread distribution, partially as a result of the broad geographical expanse of Hunnic power. This distribution and the widely varying quality of the pieces may suggest numerous artisans/workshops serving patrons in different areas under the control of the Hunnic confederacies. By the second quarter of the fifth century, contemporary with the extension of the Hunnic power into the former Roman provinces of Pannonia, cloisonné styles are preserved in Europe which may reflect regional European centres of production, possibly in the region of the middle Danube and/or along the Rhine. These objects are discussed in the third section of the chapter, with further attention to their chronology there.

**Medallion Style, Phase II (Chernyakov Cultures)**

The two hoards found at Simleul-silvaniei (Szilágy-somlyó) in the Carpathian mountains in Romania preserve variations of the Medallion Style of garnet cloisonné applied to plate *fibulae*, coin medallions and omphalos bowl decoration.³
The garnet shapes set on these ornaments consist largely of simple squares, rectangles and triangles in shared-wall cloisonné, typically inlaid in single rows following the borders or prominent features of the fibulae. One pair of objects, the large disc brooches, is decorated with these shapes combined with circular and rhomboidal plates into a representation of a cross.

Current Hungarian scholarship favours assigning the treasure to the Gepids (Bóna 1976, 69; Kiss 1982, 164; Menghin 1987, 217) rather than the Goths (Csallány 1961, 11). Bóna, for example, sees the hoards as the common property of all the Gepid tribes, which was "in charge of the ten-member council of the tribal confederacy" (Bóna 1976, 68-9). German and Romanian archaeologists and historians, however, tend to place at least the second hoard in the hands of the Ostrogothic/Alanic tribes in Transylvania (Horedt and Protase 1972, 216; Harhoiu 1980, 103-6; Wolfram 1988, 254-5), although many writers also acknowledge the ethnic ambiguities in the region (Pohl 1980, 270-1; Wolfram 1988, 485-6). As with the Kerch material, analysis of such arguments attempting to establish the precise ethnicity of ownership is not the focus of this study.

Most post-World War II archaeological scholarship assumes the deposition date for the second hoard to be within the fifth century, rather than the fourth century as Fettich originally proposed (Fettich 1932a, 55, 57, passim). Beyond this, however, opinions fall into two camps, one arguing for an early, the other for a later chronology. Kiss has recently summarised some of these views and the arguments behind them (Kiss 1982-84).

In view of the gold medallions of Valens (AD 364-78) and Gratian (AD 367-83) from the first find, Harhoiu would place both hoards within the first decades of the century, in his chronological horizon from AD 380-430 (Harhoiu 1980, 102-3). In support of this is the discovery of a set of miniature agricultural implements in bronze, similar to those in gold on the necklace from the first hoard, from a rich
female grave at Köln-Rodenkirchen, Germany; this has been dated AD 370-80 (Horn 1987, 160-1). Bóna also favours a deposition date in the first quarter of the century for the second hoard, perhaps as early as the first decade of the century when the Gepids themselves first came into contact with the Huns (Bóna 1982, 181). Kuchenbuch dated the earliest objects at the beginning of the century and the latest around the middle (Kuchenbuch 1954, 16-18). Tejral, on the basis of the latest fibulae types, also allows for a longer chronology within his horizon D2, ca AD 410/420-450 (Tejral 1988, 237-8, 292). Ambroz, who once placed the group in the second quarter of the century (1966, 88-91), altered this to a mid-fifth-century date for the first hoard and a second half of the fifth-century date for the second hoard (Ambroz 1971, 2, 104). If Bierbrauer's theories regarding a link between the length of a fibula foot and its date are accepted, the latest fibulae from the second hoard must date to the third quarter of the century (Bierbrauer 1980, 135-8; Kiss 1982-84, 402-6).

There is some internal evidence to connect the production of the cloisonné on the two hoards. For example, the zig-zag border of triangular plates around the oldest coin medallion from the first hoard (Maximian, AD 286-308) is interrupted by rectangular plates within the pattern (Cat. no. 63; Fig. 48). This is a peculiarity which also occurs on one pair of plate fibulae with mid-fifth-century parallels from the second hoard (Cat. no. 72; Colour pl. VII.2). Another medallion from the first find is set with uniform zig-zag cellwork in a classic Medallion Style pattern, as are the interior settings of the gold omphalos cups from the second hoard (Cat. nos 64 and 65; Fig. 49). The latter again are probably among the latest objects from the find, comparable to material from the middle of the fifth century and later (Kiss 1982, 164-7). It is therefore not impossible, but not strictly necessary, that the production of these objects extended over a period of some decades.

Whether all of these particular objects were created within a relatively short
space of time or whether a new generation of jewellers was copying older objects is difficult to determine. Related issues such as whether these artisans functioned within a fixed workshop, producing commercially for a larger community, were in the service of specific noble families or were peripatetic are likewise questions that we presently lack sufficient information to answer. The adaptation of the Medallion Style of cloisonné inlaying onto Chernyakov plate fibulae suggests that initially this phase was derived directly from Late Antique jewellery, unaware of, or at any rate owing little to, the developments emerging on ceremonial or military equipment such as that found at Kerch. The panther fibulae, disc brooches and agate fibula, however, reflect an awareness of Early Christian and imperial symbolism in the Late Antique world.

The trapezoidal plates on the pair of panther fibulae have parallels in the pommel from Adshimushkai and the belt buckle from Rostov-on-Don (Cat. nos 66, 28, 29). The elaborate bows of these, forming the bodies of the felines, were constructed of gold sheet over a paste core in the thrifty manner of fourth-century Roman rings and bracelets (Holmes in Johns and Potter 1983, 66). The hedera and palmette-shaped cabochons on the footplates contrast with the randomly-shaped cabochons around them and may well have been purchased by the workshop. The head and footplate mouldings appear as flattened, stylised versions of a classical kymation border.

Double panthers were among the fundamental symbols of Dionysian iconography, from whence they were drawn into Early Christian and Byzantine representations (Kent and Painter 1977, 100-1, no. 173). Late Antique vessels with panther handles, from hoards at Traprain Law, Scotland, Pietroasa, Romania, as well as the so-called Seuso treasure, Hungary (?) or Yugoslavia (?), embody the motif of the panthers drinking from a kantharos (Curle 1923, 79-88, pl. xxxi; Odobescu 1976, 687-704; Mango 1990, 12, fig. 20). It has been suggested that
rings with double panthers to the sides were symbols of military rank in the third and fourth centuries (Weitzmann 1979, 306). Double panthers on the charm necklace from the first hoard at Simleul-silvaniei (Hampel 1971, i, fig. 75) and as paired fibulae from the second hoard, presuppose artisans and patrons familiar not only with Late Antique decoration, but also its symbolism.

Fettich felt that these fibulae, together with the disc brooches, were the oldest pieces in the second hoard and could be correlated with the objects from the first treasure dated before the third quarter of the fourth century (Fettich 1932a, 57). Polygonal knobs characterise a small group of bügelknopfibeln datable from the first half to the middle of the fifth century AD, with one inlaid example known (Cat. no. 102; Schulze-Dörrlamm 1986, 628-9, fig. 40), and in terms of the cloisonné alone there would seem to be no reason why the Simleul-silvaniei fibulae could not have been constructed in the late fourth or early fifth century.

A similar awareness of Late Antique aesthetics appears on the disc fibulae from the Simleul-silvaniei find, which depict a Christian motif (Cat. no. 67; Figs 51a, 51b; Colour pl. V.1, 2). Here leaping quadrupeds repoussé across the domed bases contrast with the circular panels of cloisonné incorporating cross patterns. As noted in the catalogue description, the cloisonné panels of the two brooches are not a matched pair. Either one was damaged and unskilfully repaired or else it was an imitation of the first specimen. In consequence of this, the following discussion centres upon the more finely executed panel.

It is clear from the attachment loops that the fibulae were meant to be seen with the bean-shaped plates of the pattern at the top and cross arms to the sides and bottom. It is tempting to see the difference between the upper and lower fields as an indication that this pattern is meant to represent a Christian cross. The design may then be seen as a variant of a chi-rho symbol, with the two lower fields suggesting an alpha and an omega.
Early Christian inscriptions incorporated many variants of the *chi-rho*, including a monogrammatic cross with straight arms and a circular as well as the "P"- or *rho*-shaped top derived from early Christian cross-symbols. Monogrammatic crosses seem to have appeared shortly before the middle of the fourth century AD and examples are known as late as AD 442 (Sulzberger 1925, 378-81, 406, 446). Many of these crosses were depicted between an *alpha* and *omega* symbol, or with those symbols below their arms, and by the third quarter of the fourth century they appear enclosed within a circle (Sulzberger 1925, 424, 427-8, 432-5). Numerous inscriptions recorded from Syria often incorporate a squared-off version of an *omega* (Prentice 1908, 52, 85, 185-6; 1922, 35, 76, 85, 207-8) that arguably corresponds to the lower right-hand field of the first Simleul-silvaniei brooch (*Fig 52 a-c*). While any such hypothesis must be advanced with caution, this interpretation seems the most logical "reading" of the cloisonné pattern.

The Constantinian *chi-rho* and its variants would presumably have been identifiable and significant to Arian Germans, particularly those in military/civil service or close contact with the Eastern Roman Empire (Liebschuetz 1990, 118, 169, 190). Christianization of the upper classes of the Goths had certainly begun by the end of the fourth century (Wolfram 1988, 75-85, 135), and by the second Hunnic Period some of the Gepids under Ardaric (who ruled mid-fifth century) were Arian Christians (Csallány 1961, 12). Another cloisonné *chi-rho* appears on a pendant from Carthage, from a female burial with Sarmatian/Germanic features datable to the first half of the fifth century.

The question remains as to whether the second brooch was damaged and restored by someone unaware of or unable to recreate its pattern properly, or whether it was copied by a less skilful artisan. The latter seems a more likely probability, as the matched upper fields and distinction between the lower fields has clearly been lost. Although the patterns are not clearly rendered on the
second piece, the lower fields appear as a mirror image of the fields on the first panel. This common Late Antique device (paired objects were rarely made as identical pairs) occurs on one pair of plate fibulae from the Simleul-silvaniei hoard (Cat. no. 69; Colour pl. VII.1), again supporting a manufacturing connection with the other fibulae.

The massive onyx fibula from the hoard is the most superb surviving example of a type of brooch known from imperial representations in the late fourth and fifth centuries (Cat. no. 68, Fig 53; Colour Pl. VI.1, 1a; Belyaev 1928a, 109, 112; Delbrueck 1933, pls 95-8). Fettich thought that this piece was a barbarian imitation of an imperial type (Fettich 1932, 61), an argument he presented against Belyaev, who supposed it to be an example of an imperial gift to a barbarian leader (Belyaev 1928a, 109-10). There can be no question that the fibula bears some relationship to Roman crossbow fibulae, gifted by the emperor. Harhoiu has noted that the form of the knobs fall into Keller’s Type 5 for gold crossbow brooches (Harhoiu 1977, 15). Keller proposed a restriction of this type to the third quarter of the fourth century, with a cutoff date of AD 400 (Keller 1971, 34). Recent scholarship, as yet not formally published, tends to the opinion that Keller’s entire chronology should be moved forward, which would put the agate fibula into the first decades of the fifth century AD.\(^5\) The simple polygonal shape of the onyx fibula crossbar, however, belongs in Keller’s Type I, presumably from the middle of the fourth century AD, so some caution must be used in applying this typology to the question of dating such an unusual object.

Large onyxes appear on brooches from sites across the Roman Empire from Czechoslovakia to Soviet Georgia and modern Syria, conventionally dated to the fourth century AD (Kolnik 1984, pl. 168; Lekvinadze 1975, fig. 4; Griefenhagen 1970, 74, pls 54-6). Drilling onto the surface of a stone, in this case to accommodate garnet plates, appears to be a fifth-century technique. Garnet
plates drilled with rings appear at the end of the first Hunnic Period and plates drilled completely through are a feature of cloisonné styles from the middle and second half of the century. Although the encircling pattern of small square garnet plates alternating with green glass exemplifies the Medallion Style, it is reduced to a secondary motif by the agate and splendid stems of the crossbow-type clasp.

The incised herringbone lines, zigzag triangles and punched dots, and herringbone lines within triangles on the gold cornucopia-shaped stems of the agate fibula fall within the style of stamped metal decoration that Tejral has termed the Untersiebenbrunn-Coșovenii variant. While the stamp patterns of this style are broadly related to provincial Late Roman metalworking throughout northern and eastern Europe (Tejral 1973, 16; Werner 1981; Tejral 1988, 241), the parallels for the decoration of the Simleul-silvaniei agate fibula stems are relatively few and geographically restricted. Similar decoration may be found on the charms on the necklace from the first hoard at Simleul-silvaniei, on the silver horse harness from the female burials at Kachin, Soviet Ukraine, and Untersiebenbrunn, Austria, on the gold vase from Pietroasa, Romania, and on a gold cicada fibula from Sáromberke, Hungary (Fig 54a-f). Some of these objects were accompanied by garnet-set or inlaid ornaments. Certainly the owners of these objects had access to both ornaments with precious stones and this particular style of engraving, even if we cannot assume that the metalworking and gem-preparation were necessarily done in the same workshop(s).

The group of hoards designated the Kachin-Coșovenii type are placed by Tejral, together with Simleul-silvaniei, in his horizon D2 (AD 410/420-450) (Tejral 1973, 13-14; Tejral 1988, 237, 241). Noting the similarity between the objects in the Kachin hoard and provincial Late Roman ornaments, he proposed that they were produced by the same Roman craftsmen, working for barbarian customers grown wealthy in Roman military service (Tejral, cited in Kukharenko 1982, 241).
In the case of the Simleul-silvaniei onyx fibula, a piece of the highest quality and symbolism, it is tempting to regard its original owner as having held some official relationship with the Eastern Roman government. If he did not actively hold a position in the militia, perhaps some federate status warranted his acquisition of this splendid object. Whether this implies some degree of "official" Roman supervision in its production is difficult to determine. If this was not the case, its fabricator had great skill, a range of materials and a clear sense of the Late Antique tradition he was working within.

These brooches, one of which (the onyx fibula) was certainly a male ornament, stand in contrast to the large plate fibulae, characteristic of female dress, from the hoard. The latter are all constructed of a gold sheet, soldered with combinations of garnet cabochons in individual bezels, garnet and glass cloisonné, as well as beaded and twisted wires and granulation. These sheets, which must have required a great deal of time and skill to fabricate, were then folded over a silver base in the shape of a plate fibula. The varying shapes of their foot and head plates allow these to classified within broader groups of fibulae from the Chernyakov horizon. Those with cloisonné fall in Ambroz' categories I and II of double plate fibulae, as follows: variant Iaa (Cat. no. 70), variant Ilaa (Cat. no. 69) and variant IIab (Cat. nos 71-74) (Ambroz 1966, 82-91).

The earliest forms of plate brooches in the find are analogous with the fibulae found in the Kerch chamber tombs with coins from the reigns of Valentinian I (AD 364-75) and Valentinian II (375-92) (Zasetskaya 1968, 52). Kuchenbuch, and following him Harhoiu, have suggested that the Crimean examples must be dated around AD 400, while their western counterparts should be dated more broadly in the first half of the fifth century (Kuchenbuch 1954, 16-18; Harhoiu 1977, 150). Kazanski adopts a long chronology and dates all of the fibulae in Ambroz' variant Iaa to the period from AD 325-450 (Kazanski 1984, 8-9). The fibulae with long,
narrow, tapering foot plates (Variants IIa and IIab), however, are comparable to southern Russian types which extend into the beginning of the sixth century (Ambroz 1966, 86-91, pl. 16), and have been dated to the third or fourth decade of the fifth century (Kuchenbuch 1954, 18) or to the second half of the century (Ambroz 1971b, 104).

In the simplest variation upon the theme of Medallion-style triangular and square garnets used to decorate these fibulae, small square or rectangular plates are inlaid along the bows of the pieces (Cat. no. 70; Fig. 55). The smallest fibulae of the group are decorated with alternating green and red triangular inlays, surrounding the foot plates and along the bows (Cat. no. 69; Colour Pl. VII.1). The rims of the head plates are set with small circles of green glass matched by curved and notched rectangular sections of garnets. The positioning of the coloured inlays renders the two fibulae mirror images of one another. Werner has compared the knobs of this pair to those found on a few fibulae of Wiesbaden type (Werner 1981, 242, fig. 8, cat. no. 15), thereby drawing them into a European tradition and a dating range in the first half of the fifth century. Their size is comparable to the earliest variants of Ambroz' group IIa, perhaps datable to the first decade of the period between AD 420 and 450 (Ambroz 1966, 87-8, 91). The fact that these incorporate scored foils also suggests that these may be no earlier than the latest styles of production in the first Hunnic Period as represented at Kerch. Perhaps partly because of their modest scale, these are the most finely executed of the plate fibulae and the most worn.

The fibulae in Ambroz' Type IIab repeat the themes of zig-zag, square and circled borders in red garnet and green glass. Most interestingly, two pairs include single quatrefoil-shaped cells at the top of the foot plate (Cat. nos 72 and 74; Colour pl. VII.2). There is presently no evidence for quatrefoil shapes before the third or fourth decade of the fifth century and their popularity in works from the
second half of the fifth century into the sixth century supports a late date for these pairs. The fact that one of these also incorporated scored foils beneath the garnet plates demonstrates that their manufacturers were well aware of contemporary developments, while still choosing to work in an established style.

A few other ornaments decorated with this style of cloisonné are known, primarily stray finds from southern Russia and Romania. Two plate fibulae from Porshino in the Orel region have crudely-fashioned individual panels of cloisonné mounted above and below their bows, resembling some Simleul-silvaniei fibulae and bird-headed plate knobs similar to another pair of fibulae from the hoard (Cat. no. 75; Fettich 1932a, 26-9, pl. xii). The fibula from Pashkova, with a round head plate and diamond-shaped foot, is also set with a row of small rectangular garnets along the bow in the same fashion as the Simleul-silvaniei fibulae (Cat. no. 76). The double knobs on either side of the head plate may be compared to the cabochon-studded fibulae from Untersiebenbrunn and Airan (Kubitschek 1911, pl. I; Salin and France-Lanord 1949, 120-2, pl. xiv.1a-b).

Also in this style of inlaying is a curious ornament from Olbia, fashioned in an almost anthropomorphic shape, with a splayed footplate and rounded headplate. Although presently included in the Greek and Roman collections of the State Hermitage Museum, its combination of garnet plates and cabochons, as well as flaring bottom tips, bears comparison to the decorative tendencies of the Hunnic Period. Whether a fibula or fitting, it deserves further research, as it has not been republished since the nineteenth century (Cat. no. 77; Fig. 56).

Surprisingly the Porshino and Pashkova finds, together with a crudely-executed fibula from Periam, Romania (Hampel 1971, ii, 5-6; iii, pl. 6), are the only other surviving plate fibulae, in addition to the Simleul-silvaniei group, to incorporate cloisonné together with the scattered individually-set cabochons and flat plates. Double plate fibulae are inherently fragile constructions, but no more
so than Hunnic diadems, which have survived in considerably greater numbers.
Even allowing for a biased record, this would tend to suggest that the extent of
their production was never great.

It is instructive to compare these plate fibulae to contemporary Hunnic
diadems, the latter displaying richly granulated surfaces and cabochons, but
lacking any cloisonné additions. Both forms are composite constructions, utilising
a minimum of gold over a bronze or silver backing. Although both the Chernyakov
and Hunnic ornaments exhibit masterful attempts to establish symmetry with the
shapes of stones they use, they remain testaments to a reliance upon tumble-
polished cabochon stones. The inability to grind and polish garnets must in part
account for the rarity of true cloisonné, requiring plates in specific shapes, among
certain categories of Hunnic Period finds.

Kovrig has noted that precious stones were among the gifts brought by the
Byzantine mission to Attila recorded by Priscus (Kovrig 1985, 127). These may
well have included set and shaped stones as well as loose, polished and
unpolished gemstones. She illustrates identical heart-shaped stones with straight
bottoms set on a Hunnic diadem from Koktal' Shulak Tau in Soviet Kazakhstan and
on the plate fibulae from Regőly, Hungary, as examples of stones acquired by gift
or trade (Kovrig 1985, 126-7). She has also published the numbers of gemstones
concentrated on any one diadem - from one hundred and fifty-four to two hundred
and sixty on the more elaborate crowns of her Group II (Kovrig 1985, 127,
footnote 68).

A pair of larger fibulae from the Simleul-silvaniei find is likewise decorated with
one hundred to two hundred cabochon stones, suggesting these may have
functioned in some respects as regional parallels to Hunnic fashions. This
comparison, as much as any technical details or historical arguments, confirms the
contemporaneity of these works with Hunnic production in the fifth century.
Fashion and status displays within certain groups in both the Late Chernyakov and Hunnic cultures included ornaments with surfaces filled with a fulsome display of cabochon gems.

If it is accepted that there is a manufacturing connection between the production of the medallions, the large, classicising brooches and plate *fibulae*, then the Simleul-silvaniei finds reveal artisans in meaningful and regular contact with the Late Antique world. The capability to maintain currency with other cloisonné developments, the manufacture or imitation of panels with Early Christian symbols, together with the panther and onyx *fibulae*, presuppose both the long-term status of a barbarian group as well as the presence of regional workshop(s) supplying their jewellery. It must be borne in mind, however, that for all their intricacy, the majority of these brooches (with the exception of the panther and disc *fibulae*) incorporate relatively small garnet plates in simple patterns. Medallion Style Phase II is, relatively speaking, a static style, created without access to the finest garnet gems.

**Rectilinear Style, Phase II and Hybrid Styles**

The cloisonné of the objects in the second phase of the Rectilinear Style overlaps technically with Late Antique production, but the object types themselves reflect the development of Hunnic Period forms. The objects in Rectilinear Style, Phase II can be grouped to some degree on the basis of their quality, although the majority are rarely of the best workmanship. Some of the higher quality surviving ornaments incorporating circular and rhomboidal plates in some instances were deposited with ornaments in Mosaic Style I or II. These hybrid forms, which favour patterns composed of small square or rectangular plates, but which also endeavour to include geometric plates, are referred to in this study as Rectilinear...
The garnet cloisonné pendant from Hesselager represents the only early fifth-century cloisonné find from northern Europe (Cat. no. 78, Pl. 6.1). The grid of twenty-four garnets, the cabochon bars at the bottom, the highly reflective plain gold foils visible around the edges of the stones and the construction of the cloisonné section as a separate panel on the pendant are elements of the cloisonné technology familiar from objects preserved in the Crimea and Soviet Georgia. As noted above (Chapter Three) drilled garnet plates may represent a development within the first Hunnic Period.  

Such engraved ring-and-dot motifs are particularly congruent with Late Roman metalworking technology in Europe, which, in the late fourth and first half of the fifth century, employed stamped ring and ring-and-dot motifs on a range of ornaments (Werner 1981, 251, passim; H. Böhme 1974a, figs 13, 15, 19-21, 27-8). The pattern of the Hesselager pendant, for example, may be compared to the punched ornament on a Late Antique provincial silver bowl from the Coleraine hoard in northern Ireland. On the latter a lozenge is divided into a grid of twenty squares, each stamped with a ring and dot. This hoard of hacksilver, which included one thousand five hundred and six coins, was deposited after either AD 410 or 420 (Kent and Painter 1977, 125-7). Broadly similar tastes and styles, of course, need not presuppose similar workshops.

Voss suggested that the D-shaped stamps on the suspension loops of the Hesselager pendant are unique, possibly the first of a series of stamps which continue in later Scandinavian metalworking (Voss 1951, 161-2). There is, however, no evidence at present of garnet cloisonné having been produced in Scandinavia in the first half of the fifth century, supporting Voss’s conclusion that the pendant was the product of either a southeastern European or southern Russian workshop (Voss 1951, 162). The possibility that this emerged from a
Late Antique lapidary workshop somewhere in these regions is supported by its very close technical resemblance to two strap ends from Concea€Œti in Soviet Moldavia.

Like the Hesselager pendant, the strap ends from the rich male tomb found at Concea€Œti near the Prut River are decorated with a grid pattern of cloisonné with the surface of some garnet plates drilled with circles (Cat. no. 79; Pl. 6.4). They, too, have very reflective plain gold foils and low cell walls. Drilled circular plates in the centres of the tips are set off by short attachment cell walls in the manner of Mosaic Style I designs. To judge from the grave goods in the tomb, their owner almost certainly held a military commission in the Roman army (Chapter Five). The Mosaic Style II cloisonné eagle from the find is among the most superb surviving cloisonné objects from the fifth century (Chapter Five); the strap ends are the highest quality examples of their type. The assumption that these objects belonged to a major Hunnic leader like Uldin, must remain, of course, purely speculative (Blošiu 1974, 79).

Silver strap ends with similar spatulate and slightly flared tips from Tomb 145 at Kerch, and inlaid strap ends from Muslymovo, Perm, USSR and the Tarkhanskaya Road in Kerch (Cat. nos 80 and 81; Figs 57a, 58; Zasetskaya 1979, 15, fig. 5.12) provide the best parallels for the Concea€Œti mounts. The Concea€Œti strap ends, like those from Tomb 145, may be as early as the end of the first Hunnic Period, and therefore more or less contemporaneous with the silver vessels found in the same grave.

Similar forms, however, recur throughout the first half of the fifth century. Four strap ends set with rectangular garnet plates in bilateral symmetry, for example, were among the burnt ornaments in the Hunnic deposition at Szeged-Nagyszéksős, Hungary, generally dated to the second Hunnic Period (Cat. no. 82; Fig. 59). These terminate in split flaring tips like the silver strap ends from the
24.6.1904 Kerch tombs (Fig. 57b; Zasetskaya 1979, fig. 5.34). Other ornaments from the Szeged find, probably scabbard fittings, are set with rows of triangles like the Perm fittings, but end with lobed tips (Cat. no. 83; Fig. 60). Lobed tips are another characteristic Hunnic Period form, represented in cloisonné by a small strap end in the British Museum and a small fitting from the Chersonese (Cat. nos 84, 85; Pls 6.2, 6.3). Variations on these spatulate, flared and lobed tips appear on cicada fibulae, harness fittings and stamped plaques from a variety of finds in the first half of the fifth century (Fettich 1953, pl. xl.1; Alföldi 1932, pls x, xi, xiv). This vocabulary of shapes may, to some extent, have developed from indigenous forms.

The lunular shape of the fitting from Mestechko Kuchuchugury, for example, appears to be a direct imitation in cloisonné of Late Sarmatian drilled bronze fittings, such as that from the Hotel Petöfi site in Szentes, Hungary (Parducz 1941, 52, pl. iv.14). Like some Kerch ornaments and the Concești eagle fitting (Cat. nos 37, 40, 54, 125), this piece incorporates a silver backing plate for support behind a leather or fabric backing. Spatulate and flared forms likewise may be compared to the horse harness fittings from Untersiebenbrunn and Kachin, whose decoration and development within provincial Roman technology would again seem to owe little to the Huns (Fig. 54a). It is possible that the distribution of these forms beyond the regions of the Chernyakov cultures, into Pannonia and Russia may be attributed to the Hunnic confederacies.

A long chronology to the end of the fifth century and a much broader distribution characterises the many strap ends with cylindrical bottoms known from Hunnic Period finds (Gening 1979, 99-100). As noted in Chapter Three, these too appear to have predecessors in the Late Sarmatian Period. The majority of these, manufactured in varying lengths, are in metal alone. The inlaid examples are generally in a Rectilinear Style. A strap end from Soviet Dagestan in the
eastern Caucasus has triangular clusters of Hunnic-style granulation across its rounded end below a chequerboard of red and green glass (Cat. no. 86; Fig. 61). A larger and more elaborate pair from Muslyumovo in the Perm (Cat. no. 87; Fig. 62) have right-angled notches in the plates; these may be seen as congruent with Early Byzantine production after the middle of the century (Chapter Five). The Perm strap ends were deposited with the spatulate strap ends in silver noted above and with a belt buckle in red and green glass in a degenerate version of a Rectilinear and Unit Cell combination (Cat. no. 88, Fig. 63). The mount from Pécs-Üszög in Hungary is a crude variation of this form from a deposition datable closer to the middle of the fifth century (Cat. no. 89; Fig. 64; Tejral 1988, 266).

Like the Pécs strap end, the simplest variants of the Rectilinear Style from Europe and southern Russia are so basic as to presuppose minimal stone grinding abilities, although on occasion they are constructed with impressively heavy cast gold or silver elements and with triangular plates positioned to imitate unit cell rhomboids (Cat. no. 90; Pl. 6.5). The positioning of the cell walls on an object like the Untersiebenbrunn scabbard fitting suggests they were soldered in sequential order to accommodate the unequally-sized and poorly-shaped stones, presumably by an artisan unable to further shape the plates (Cat. no. 91; Fig. 65).

As on some simple fittings from Kerch, a scabbard mouthpiece from the Don, or a sword fitting from the Bosphorus (Cat. nos 62, 93, 94; Figs 66, 67), such linear arrangements of technologically basic forms were a primary form of scabbard and buckle decoration, capable of accommodation to flat as well as curved surfaces. None of these are constructed with the elaborate double curves of the scabbard fittings from the Kerch chamber tombs. Tejral has recently placed the Untersiebenbrunn fittings at the beginning of his group D2 (ca AD 410/420-450; Tejral 1988, 237-41, Map 1), but for the other isolated finds lacking contexts there is little to narrow their production within the broader Hunnic Period (AD 375-
This trend of scabbard decoration in the Hunnic Period is well represented by a *spatha* from Arcy Ste Restitue, France (Cat. no. 95; *Fig. 68a*). The rectangular stones of the Arcy Ste Restitue hilt, polished flat on the front, but curved on the reverse (Vallet 1988, 51), may be compared to the inlays on the Altlussheim and Dyurso River sword hilts discussed in Chapter Five. Vallet has recently argued that gold sheet associated with the Arcy Ste Restitue *spatha* initially sheathed a Hunnic-style scabbard rather than a hilt, as reconstructed in the nineteenth century. Accordingly she proposes moving the date of the sword back towards the middle of the fifth century (Vallet 1988, 49-54), a redating supported by the classifications proposed here.

There is no reason to question a first half or mid-fifth-century date for the hilt, but the linked ovals on the gilt bronze scabbard decoration resemble some sixth-century cloisonné objects (*Fig. 68b*; Menghin 1983, 233, a gilt bronze buckle from Kirchheim unter Teck, Germany, Zeitgruppe C, AD 530-70; Bierbrauer 1974, 115-19, 316-17, pl. xl.1, a silver *fibula* from Testona, Italy, first half of the sixth century AD). Valuable swords were refurbished and old elements incorporated with the new, and it is possible that the scabbard mouthpiece was a later addition along with the chape, which typologically also belongs with sixth-century forms (Menghin 1983, 349, no. 47). Whatever the relative dates of its elements may be, the combination of Rectilinear and Mosaic I Styles reflects one style of status sword fittings of the Hunnic Period.

The simple Rectilinear-style buckle plates at Dunapataj-Bödpuszta, Hungary, and Voskhod, USSR, suggest an upper limit for ornaments rendered solely in a rectilinear grid (Cat. nos 96 and 97; *Fig 69; Colour Pl. VIII.1*). The latest deposition dates for these objects fall in the third quarter and second half of the century, respectively (below; Chapter Five). In general, by the middle of the fifth
century, rectangular or square cells by themselves are reduced to design elements around cylindrical components such as clasps or buckle tongues (Cat. nos 98, 99; Fig. 74; Pl. 16.1). Rectangular or square cells set as border motifs or blocks of patterns were replaced by S-shaped and omega-cells in the Carpet Style (Chapter Six).

A few surviving high-quality ornaments which combine rectilinear and drilled circular plates, such as the Conçeštī strap ends or a small pommel from Blućina (Cat. nos 79, 100; Pl. 14.1), were deposited with cloisonné objects in the Mosaic, Cabochon Bar and Carpet Styles. This would tend to confirm both their greater value and the wider contacts of their owners.

This is likewise true of a cheekpiece from Kudenetov in the Caucasus which incorporates short cabochon bars similar in scale to those at Kerch, set in a proportional manner (Cat. no. 101; Fig. 70). The cheekpiece is constructed of silver set with a framework of gold cells, a technique of fabrication known from the middle of the fifth century, which continues on Ostrogothic and Merovingian Period work of the later fifth and early sixth centuries. The Kundenetov depositions included a classic example of a Mosaic Style II cloisonné construction (Cat. no. 122).

These high-status burials from the fifth century, whose cloisonné ornaments reflect both Late Antique and Early Byzantine styles, raise again the question of the origins of the highest quality work in the Rectilinear and Mosaic/Unit Cell Styles. It is easy to assume that the simple and crude variants of Rectilinear Style Phase II emerged from workshops with limited access to stones. The finds from Conçeštī, Hesselager, Blućina and Kudenetov, seem to represent different workshops altogether. These artisans or ateliers were certainly aware of more sophisticated styles of cloisonné. There is no need to assume that production in any one workshop was uniform, and clients of different means might have
encouraged a range of productions. Where these workshops were located must remain an open question. But the broad patterns of distribution of the high-status objects in the following section offer some illumination.

Regional Concentrations of High-Status Ornaments

As reviewed above, the Simleul-silvaniei finds support the hypothesis that cloisonné production to local needs was taking place in the regions outside the *limes* occupied by the Chernyakov cultures. Those finds, presumably from a single workshop, substantiate some continuity between Late Roman metalworking technology and cloisonné *fibulae*. A few individual finds such as a *fibula* from the Rhine near Mainz, where rhomboidal and triangular plates have been applied to a local type of *fibula*, suggest that jewellers along the Rhine also must have experimented with garnet cloisonné (Cat. no. 102; Fig. 72). In addition to such anomalies in the record, there exist a few high-status ornaments that allow further observations concerning the consumption and production of cloisonné ornaments in Europe and North Africa. These bring into focus trends of cloisonné decoration in the first half of the fifth century AD, which clearly were produced in awareness of the Unit Cell and Mosaic Styles as preserved at Kerch.

Europe

The relationships between cloisonné ornaments from high-status graves at Pouan, France, and Dunapataj-Bödpuszta (Bakodpuszta), Hungary, together with two belt buckles from Hungary reflect the development of related styles of cloisonné production, certainly concentrated and possibly originating somewhere along the Danube.
Menghin considered Pouan to be the oldest of all of the complexes in his Zeitgruppe A (Menghin 1983, 27). The deposition at Pouan, in common with a particular class of high-status graves of the second Hunnic and post-Hunnic Periods, included two weapons in the grave, a *seax* (single-edged short sword) and a *spatha* (a double-edged long sword) (Appendix IV). The Pouan *spatha* is discussed further in Chapter Six, but the classifications established in this chapter throw new light on the associations and dating of the cloisonné fittings of the *seax*.

The scabbard fittings of the Pouan *seax* are rendered in Rectilinear Style, Phase II (mouthpiece) and Rectilinear and Unit Cell Style combination (chape). The *seax* pommel is decorated with a cloisonné pattern in Mosaic Style I, modified somewhat to the heart-shape of the fitting (Cat. nos 103, 104, 106; Figs 71, 76; Pl. 6.6).

Only three cloisonné examples of this type of pommel, mounted to the front face of a hilt rather than perpendicular at its top, survive. The first is the small Rectilinear and Unit Cell pommel from the Blucina *seax* (Cat. no. 100). Another pommel from Oros (Nemetker), Hungary, resembles the Pouan pommel in its shape and pattern, but bears linked omega-shaped plates in the Carpet Style (Cat. no. 148; Fig. 105). Arrhenius has proposed that a U-shaped fitting from Tournai, now lost, was also originally a *seax* pommel (Pl. 13.1a). The Tournai fitting was deposited before AD 481/2, while the Oros pommel could have been produced from the later second Hunnic Period onwards, on the basis of its relationship to other mid-century finds such as the Regöly buckle (Cat. no. 127; Fig. 96; Chapters Five and Six).

Arrhenius proposed, on the basis of the cements presumed to have been used on these pommels, that the Pouan and Oros pommels were imitations made after the Tournai pommel, which she saw as a product of a Byzantine central workshop
in Constantinople (Arrhenius 1985, 101-2, 127-8). She grouped the paste used on the Oros pommel, composed primarily of calcite with some quartz and mixed silicates, with similar pastes on primarily sixth-century objects whose workshop origin she located in Mainz (Arrhenius 1985, 130, 201, fig. 151). She was not, however, actually able to test the cement used on the Pouan pommel, which she assumed to be of the same "sand putty" type as the Oros paste. The only two other fifth-century objects included in her Mainz sand-putty grouping were Hunnic Period buckles with Hungarian provenances.

It may be assumed that both the Pouan and Oros pommels represent variations of a specific type of pommel, one with a Mosaic Style I pattern and the other using a more sophisticated Carpet Style cellwork pattern. The lost Tournai fitting, assuming it was a seax pommel, is of a different form and style altogether. While it is not impossible that all of these fittings are more or less contemporary, technically and stylistically the Pouan seax fittings correspond to an earlier phase of production. The construction of the Pouan pommel as a thin separate panel, mounted to the sword hilt by means of studs hidden beneath the cloisonné, rather than by exterior colleted rivets, is consistent with late fourth and first half of the fifth-century technology. Mosaic Style I designs on the Kerch longsword and Kouadiat-Zateur fibulae present parallels for the design pattern. While simplicity should not be mistaken for antiquity, at present the circular plates of the Pouan pommel have no parallels in post-Hunnic or early Merovingian cloisonné from western Europe. It is difficult to imagine that even the most conservative workshop would not have preferred to assemble an ornament using omega and S-shaped cells in an interlocking pattern after their introduction.

Indeed, the styles of all of the Pouan seax fittings relate to production in the second Hunnic Period. This suggests they should be associated with the small looped fitting and the single buckle from the Pouan grave (Pl. 6.6; Salin and
France-Lanord 1956, 73, figs 17 and 18). These, as Kazanski has noted, are Hunnic Period forms (Kazanski 1982, 25-6). The *spatha* and the two other buckles from the grave, set with hexagonal plates, may be classified in the Carpet Style with the material from Apahida from the second half of the fifth century. Unless we assume the *seax* to have been an heirloom, this assemblage confirms the overlap between these two distinctive modes of production.

Kazanski placed the *seax* from Pouan with the *spatha* fittings, proposing that they were produced in western Europe under the influence of cloisonné from the middle Danube (Kazanski 1982, 26-7). He advanced this theory of northern Gaulish production in opposition to Werner, who saw related cloisonné buckles as originating on the middle Danube (Werner 1966, fig. 4). Although their place of production cannot be precisely fixed, comparable cloisonné designs do have a Danubian distribution.

Two cloisonné buckles with Hungarian provenances, both with animal-headed tongues and square plates, also preserve variants of Mosaic Style I patterns. The first, from Szeged Nagyadorog, has two oval plates set in rectangular panels, their Mosaic Style settings modified with the addition of triangles and squares (Cat. no. 107; *Fig. 77*). Another buckle, formerly in the Behague collection, bears a related pattern (Cat. no. 108; *Fig. 78*). Although the present plates are replacements, early drawings of the Behague buckle show that the basic cellwork pattern was altered only slightly (Tyszkiewicz 1898, pl. xxi.192). The central heart shape, truncated and notched on the sides, is paralleled by the half hearts on the Kerch scabbard panel as well as by a few surviving notched hearts set on the handles of the dodecahedral cup from Pietroasa (*Colour pls II.1c, XII.1; Appendix V*).

The design of the Pouan scabbard mouthpiece may be compared to the bracelets from Dunapataj-Bödpuszta, Hungary (Cat. no. 105; *Colour Pl. VIII.1*). On these bracelets, the "manes" of the beasts are depicted by five convex rectangular
stones, with triangular plates matched to the base of each one in the same fashion as the Pouan seax mouthpiece.

The contents of two female graves were mixed upon their discovery at Dunapataj-Bödpuszta, and consequently Kiss and Bóna prudently allow a time span for the manufacture of the Dunapataj-Bödpuszta jewellery between AD 420-470 (Kiss 1983, 97-8, 112). The grave goods fall roughly into two periods and it seems probable, for example, that the necklace with conical pendants and arm-rings belong to an earlier phase than the rings. 10

A pair of arm-rings similar to the Hungarian pair, found near Kiev, is more coarsely executed, with the stone settings in high bezels and their "mane" inlays terminating in split flaring tips similar to Hunnic Period strap ends (Kiss 1983, 110-11). These were associated with a belt buckle comparable to buckles from the grave at Blučina, Czechoslovakia, dated no later than the third quarter of the fifth century (Chapter Six).

Although Bóna’s hypothesis that these grave finds could be connected to the family of Odoacer must be considered highly speculative (Bóna, cited in Kiss 1983, 97), there is little question of their relative wealth. 11 The absence of fibulae from these two graves (three fibulae were found in the third grave nearby, of slightly later date) led Bóna to suggest that the costume might show Hunnic influence (Kiss 1983, 101). Yet the rings and necklace with round beads might just as well reflect Early Byzantine dress styles.

The stylistic and technical relationship between the cloisonné of these bracelets, the Pouan seax fittings and the Hungarian buckles suggests a workshop or related workshops capable of decorating both weaponry and high-status female jewellery. Although the time frame cannot be fixed with certainty, production of all of these ornaments in the middle third of the fifth century does not seem unreasonable. One further set of sword fittings indirectly confirms this time frame.
A brick-tiled grave in a Roman necropolis outside of Beja, Portugal, produced a longsword with a cloisonné guard, two buckles and a single garnet cabochon (Cat. nos 99, 109, 110; Figs 73-5). The simple rhomboids across the guard recall the hilt decoration on a dagger from the 24.6.1904 Kerch Tomb (Cat. no. 41); the decoration of the loop of one of the buckles finds its closest parallels at Kerch and on a buckle from Regöly, Hungary (Cat. nos 50, 127). Like other swords known from the Crimea and Caucasus, the wooden hilt at Beja was mounted with a single garnet stone.

Similar long and narrow guards appear in the West in the second Hunnic Period, with parallels in the Hunnic Totenopfer deposits at Wien-Leopoldau, Austria, and Jakusowice, Poland (Raddatz 1959, 145; Menghin 1987, 180-3). The cloisonné is a simple Unit Cell version of the guard in Notched Plate Style from another Totenopfer at Pannonhalma, Hungary, probably deposited within the second quarter of the fifth century (Cat. no. 138, Chapter Five). On the basis of these other finds it is reasonable to assume that the Beja guard was manufactured within the first half of the fifth century, possibly in the second quarter of the century as Dannheimer proposed (Dannheimer 1961, 467). Whether the Beja cloisonné represents a chronologically earlier or less sophisticated contemporary version of the Pannonhalma guard cannot be easily determined, given the extremely damaged condition of the former.

The fact that the Beja deposition falls within the presumed path of Vandal/Alanic invasion does not permit a clear-cut association with these or any other tribes. Likewise the fact that the weapon and belt buckles resemble items preserved at Kerch does not necessarily mean the owner was from southern Russia. The fact that he was interred in a tomb in a established cemetery could even suggest that he was a local member of the community. Not only the ownership, but also the more important question of their original place of
manufacture, remains hidden to us.

There is no evidence of local production of cloisonné in the fifth century within the Suevic kingdom in Galicia, so the Beja sword and buckles, like the few other inlaid buckles known from Portugal (Koenig 1981, 349), would seem to have been imports. Tomka and Kazanski have suggested that the sword might have originated on the Danube (Tomka 1986, 454; Kazanski in Marin 1990; 47). Kazanski interprets the Beja and Pouan objects as one manifestation of a "mode danubienn", developed along the Middle Danube, adopted by the tribes of the Hunnic confederacy, and imitated in western Europe (Kazanski 1989). At the same time he also would recognise the rôle of barbarian leaders in the Roman military in the process of dissemination.

The questions of how barbarian groups outside the limes acquired their weapons, and to what degree they were dependent upon their Roman contacts, are not easy to answer. An item such as the Beja sword could have been acquired as plunder, as a gift, during service with the Hunnic confederacies or even in the Roman army. The possibility must be entertained that cloisonné-decorated weapons were worn by Roman troops as well as by their barbarian auxiliaries and opponents.

If it is assumed that the cloisonné fittings were being made at the same time and place as the sword blades, the relative stability of settlement in both the Danube and Rhine areas would allow for some continuity of weaponry production from the Late Roman Period. It is not entirely out of the question that arms factories producing swords also survived in Italy in the West, and even in southern Illyricum in the East, at a site such as Salona, together with the other intact factories in the Eastern Empire. It is difficult, however, to trace any concrete evidence of this production, as many of the official state arms factories or fabricae along the Rhine and Danube were closed down in the late fourth
century as the Empire relinquished control of provinces in those zones (S. James 1988, 285).

Although the probability of local production of cloisonné in Europe now seems established in the literature, possible production areas and who controlled them must remain hypothetical. Although an object like the Beja sword bears a summary relationship to an object like the Pouan seax chape, this might reflect a mutual dependence upon Unit Cell Styles throughout the Empire rather than evidence of a single manufacturing site. Given the small number of surviving pieces, we must exercise caution in the application of a summary phrase such as "mode danubienne" to garnet cloisonné.

North Africa

Theories of regional production also have been advanced for cloisonné material from North Africa, based upon the assumption that the Vandals introduced garnet cloisonné to North Africa. Although the range of cloisonné fittings in bronze from the fifth and sixth centuries in that region may suggest an increase in regional production after the Vandal invasion, the case for the Vandal introduction of high-quality cloisonné should be re-examined in the light of the classifications established in this study.

A fragmentary bow fibula from a tomb in Cirta, Algeria, repeats another variation of a Rectilinear and Unit Cell composition, with a rhomboid on the bow and a border of square cells around the edge of the footplate (Cat. no. 111; Fig. 80). This and an inlaid buckle loop apparently came from the spoil heaps around a grave with a tombstone inscribed to the goldsmith Praecilius (Fig. 79; Doublet and Gauckler 1892, 54; Koenig 1981, 314).

Camps-Fabrer took the presence of the Cirta fibula in a goldsmith’s grave as
evidence of local production of cloisonné (Camps-Fabrer 1970, 153). Little can be said about these unstratified items, which recent research has proposed emerged from a nearby female burial confused with the Praecilius grave (whose inventory, if any, has never been published) (Koenig 1981, 300-1).

A related pair of bow fibulae, however, are more revealing. These formed part of a suite of female jewellery discovered in a white marble sarcophagus at Koudiat-Zateur in Tunisia (Cat. no. 112; Fig. 81). Their decoration consists of garnet plates and pearls in band cloisonné, linked together and to the side walls by short sections of cell walls in Mosaic Style I. A buckle in Mosaic Style I and necklace clasp with a chi-rho in cloisonné were also included in the burial (Cat. nos 113 and 114; Figs 82-3).

Koenig proposed a range of manufacturing dates for the Koudiat Zateur fibulae from the second third to the second half of the fifth century, assuming with Bierbrauer that their owners must have participated in the Vandal invasion (Carthage fell to the Vandals in AD 438; Koenig 1981, 309, 322-3; Bierbrauer 1974, 120). Koenig also put forward the argument that, not only was the form of the bow fibulae from the Koudiat Zateur and Cirta finds a native Vandal type from North Africa, but that similar examples in Ostrogothic and Merovingian contexts were manufactured in Africa. Kazanski disagrees with the assignment of related fibulae in Europe to North African production, preferring to see them all as derived from a common prototype, Ambroz' type Ia (Kazanski 1984, 44, note 46). A similar approach to the cloisonné jewellery lifts the restraints imposed by a solely Vandal attribution. If the Koudiat Zateur assemblage is examined outside of its presumed Vandal context, many of its affinities lie with Late Antique ornaments from the first Hunnic Period.

The Koudiat Zateur deposition discloses a high-status woman whose costume mixed barbarian and Late Antique elements. She was buried in garments
decorated with thousands of stitched-on gold tubes and plaques. The plaques have similarities to those at the 24.6.1904 Tomb at Kerch and at Dunapataj-Bödpuszta, Hungary (Zasetskaya 1979, figs 2, 3; Kiss 1983, fig. 5.5). The closest parallel for the Mosaic Style buckle also comes from the 24.6.1904 Tomb at Kerch (Cat. no. 49), although the North African piece was assembled with scored foils beneath the garnets.

At the same time the necklace with a cloisonné clasp decorated with a Christian chi-rho and the finger-rings confirm that this woman had access to status jewellery of the Late Antique Roman world as well. Although the necklace type has a wide range from the Late Roman to the Early Byzantine Period (third to sixth centuries), the best fifth-century examples, from the Piazza Consolazione and Carthage hoards, may be dated within the first half and first quarter of the century, respectively (Ross 1965, 1-4; Tait 1976, 125, no. 186; Koenig 1981, 319-20; Chapter Five). The only fifth-century parallel for the round garnet beads are those on the necklace from Dunapataj-Bödpuszta, Hungary (Kiss 1983, 104, 110, fig. 4.4).

The Late Antique finger-rings at Koudiat Zateur are noteworthy additions to the ornaments. The polygonal ring with a Greek inscription is a type datable from the third to fourth century AD (Henkel 1913, 4, pl. 1.9-12; Damm 1988, 152). Likewise the ring with shoulders in the form of dolphins clasping a gem finds a parallel in two Late Antique rings in the Thetford treasure from eastern Britain, datable to the late fourth century (Johns and Potter 1983, 83-4, figs 8.5, 9.6).

Assuming the Koudiat Zateur ornaments were produced in North Africa the jewellers who made them were aware of Late Antique styles. Certain details such as the spirally-wound wire around the fibulae and pendant, contrasting with objects preserved in Europe and Russia, suggests that these are indeed North African products. Likewise the extremely rare gold fibula with a returned foot
seems to represent a variant on types known in Europe, whose proportions reflect Roman influence (Schulze-Dörrlamm 1986a, 684-5, fig. 102).

The Koudiat Zateur cloisonné may represent much broader Pontic and Eastern Mediterranean traditions of cloisonné decoration of which few examples survive. Their preservation in this particular context is a result of burial customs which do not necessarily reflect tastes and styles exclusive to their owner. The few sites which preserve Unit Cell and Mosaic Style I cloisonné in the first half of the fifth century have a broad distribution (Map 3). The most logical means by which these Late Antique styles could be transmitted was the Roman Empire itself and its widespread administrative system which recruited people of every nationality.

It must be queried whether this assemblage of jewellery necessarily reflects the movements of a woman who accompanied the Vandal and Alanic mercenary armies from southern Russia/Eastern Europe to North Africa. Even if her Late Antique rings and necklace were looted or preserved as heirlooms, such jewellery seems to represent the ornaments of a settled aristocrat, as does her burial in a marble sarcophagus. The fact that the Late Antique administration in North Africa prior to the arrival of the Vandals was in the hands of military and civil officials, many of whom were likely to have been of Germanic/Sarmatian descent, provides an equally valid, if not more probable, means by which a woman of related ethnicity might be located there. Although Rostovtzeff’s initial reaction to date the assemblage to the late fourth century can only reflect the lower limit for the production of these grave goods, their assignment to the first Hunnic Period or Tejral’s D1 should not be dismissed (Rostovtzeff 1923, 152-3).

Conclusions

The range of object types and cloisonné styles reviewed in this chapter

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emphasises the expansion of garnet cloisonné ornaments in the first half of the fifth century. Many of the objects may be fairly interpreted as regional variations upon the patterns of Late Antique cloisonné. These were conditioned by status and access to stones and influenced by contacts with the Late Antique styles, particularly in the Eastern Empire. It has been suggested that access and the capability to grind larger stones were relatively limited. The manufacturers of many of these ornaments drew solely upon fourth-century styles of inlaying as preserved in Iberian and Crimean contexts, combined with regional styles of surface treatment of the metals. The forms of objects to which these were applied were typical of the sedentary agricultural population (Chernyakov culture plate fibulae) or Hunnic Period rider/nomadic groups (horse and belt gear).

The situation with the weaponry and high-status female jewellery discussed in the second half of the chapter is more complex. Here the impact of both the Unit Cell and Mosaic Styles of inlaying is evident and these styles of inlaying mirror developments preserved at Kerch. In the case of decorated swords and scabbards, it is tempting to see these as reflecting awareness of official Late Antique dress weaponry. This must rest on slender evidence, first on items such as the longsword preserved at Kerch, and later on Notched Plate weaponry fittings from high-status Hunnic graves. Other object types, such as the Hungarian belt buckles, also reflect contact with these styles. The fact that a coherent Mosaic Style I pattern was applied to fibulae in North Africa and not in Europe suggests such motifs were transmitted directly from the Eastern Empire. Whether the weaponry manufacturing systems of the Empire survived to influence the decoration of regalia in the old Roman provinces during the second Hunnic Period must remain speculative.

Although it seems clear that the styles reviewed in this chapter coexisted over several decades in the first half of the fifth century, there appears to be a
progressive overlap, with the Medallion and Rectilinear styles largely disappearing by the end of the Hunnic Period. By the end of the second Hunnic Period, locally-produced objects mirror Early Byzantine styles. The simple rectangular and square shapes are replaced by S-shapes and omega-shapes of the Carpet Style. In the same fashion, the garnet plates of the Unit Cell styles are superseded by those of the Notched Plate Style and Mosaic Style I is replaced by the curvilinear interlocking patterns of Mosaic Style II. These forms and their relationship to Early Byzantine forms are the basis of the following chapter.

NOTES

1. This follows the evenhanded approach of Kazanski and Legoux (1988). An alternative term to this perhaps would be Gothic or eastern Germanic, reflecting the major component of the political federation which controlled these areas prior to the arrival of the Huns. Not only are these terms loaded with specifically Germanic connotations at the expense of the other ethnic groups, particularly Sarmatians, living in this region, but they do not describe the political situation after the arrival of the Huns ca AD 420.

2. Recent research has clarified the sources and interpretation of these features. Elements such as hard saddles and cauldrons do not appear in southern Russia before the Hunnic Period and must be introductions from Inner Asian steppe cultures (Kiss 1984, 189-90). Objects of female costume such as kolts, pendants worn suspended at the temples, appear to be purely Hunnic developments, whereas the widespread nomadic practice of wearing crowns or headbands probably had Sarmatian prototypes (Zasetskaya 1975, 10-16). The distinctive type of these diadems that developed in the Hunnic Period probably spread from the west to the east. Reflex bows and triangular arrowheads were known in the Roman Period (Zanier 1988, 5-27), but the type of the latter and reintroduction of the former, were due to the Huns. Cast metal mirrors and longsword fittings such as sword beads and scabbard slides are interpreted as derived from Alano-Sarmatian and Sarmatian/Parthian types, respectively (Kazanski 1986, 35; Appendix IV). The practice of artificially forming skulls had probably spread from Indo-European cultures in present-day Kazakhstan and Afghanistan to the northern Caucasus, the Crimea and the Chernyakov culture areas before the arrival of the Huns (Kiszely 1978, 6, 19-21, 41). Formed skulls in the Carpathian Basin and Western Europe therefore reflect the confederacies of the Hunnic Period rather than Hunnic ethnicity.

3. Although the old Hungarian name of Szilágy-somlyó for this site is still in current usage (Menghin 1987, 217), the policy of this text in employing modern place names for European sites is followed here.

4. The recent excavation of a marble pantheress (H: 56 cm) from an outdoor fountain in the region of Varna, Bulgaria, datable to the fifth or sixth centuries, confirms the continuity of the motif in southeastern Europe through the Migration Period (Varna Museum no. 111660).

5. I am grateful to Dr Martin Welch for sharing this information with me, based upon his conversations with H. Böhme and other continental European scholars.

6. Herringbone patterns appear on the silver buckles and horse harness from a female cremation
burial or hoard found at Kachin (Soviet Ukraine) (Kukharenko 1982, 240) and on the tongue of the silver buckle from Airan, France (Salin and France-Lanord 1949, 122-4, pl. xiv.2; Tejral 1988, fig. 9.2). Herringbone lines within triangles, surrounded by dots, decorate such diverse objects as a gold charm on the chain from the first hoard from Simleul-silvaniei (Hampel 1971, i, fig. 75), the body of a gold cicada fibula from Sáromberke, Hungary (Fettich 1953, pl. x.l1) and the neck of the gold jug from the Pietroasa treasure (Odobescu 1976, 606, figs. 9, 10). Zig-zag lines enclosing dots find their closest analogies again on the implements from the chain from the first hoard at Simleul-silvaniei and on the borders of the engraved horse bits from Kachin and Untersiebenbrunn (Kukharenko 1982, figs 3, 4.3; Tejral 1988, fig. 11). The simpler variations on a silver fibula from Selce, Yugoslavia (Eisner 1938, pi. 49.1; Werner 1981, pi. 32.1) and the lost gold sheet from Coșovenii de Jos, Romania (Zeiss and Nicolăescu-Plopsor 1933, 276, fig. 2; Harhoiu 1977, fig. 1.7) may also be cited.

7. The earliest appearance of drilled garnet plates is difficult to trace. Arrhenius cites the plates on the Pietroasa treasure objects and two blue glass beads from a Norwegian site as possible fourth-century prototypes (Arrhenius 1969, 13, fig. 11; 1985, 52). Although drilled ring-and-dot motifs fit comfortably with a provincial Late Antique aesthetic, drilled and engraved stones also occur in Sasanian and Iberian contexts (Fig. 45; Appendix III; Falk 1974, no. 101), which certainly suggests a parallel if not prior development in Persia and Byzantium.

8. Accepting Vallet’s plausible interpretation of the gold sheet as originally decorating a Hunnic-style scabbard, its present shape does suggest that it too may have been readapted to a hilt, possibly at the same time the other additions were made.

9. The nineteenth-century theory that the burial deposit at Pouan could be identified with a Visigothic warrior, perhaps even Theodoric himself, fallen on the battlefield at Catalaunia in AD 451 (Peigné-Delacourt 1860), is rejected in twentieth-century scholarship (Salin and France-Lanord 1956, 65, 75; Kazanski 1982, 28-9). Yet, surprisingly, it still crops up occasionally in contemporary literature (Heidinga in Besteman, Bos and Heidinga 1990, 16).

10. The necklace with long conical pendants (similar to ones from the 24.6.1904 Kerch Tomb, Untersiebenbrunn and Hochfelden, Alsace) in the double female burial at Dunapataj-Böduszta belongs in Tejral’s phase D1 or at the beginning of D2 (ca AD 410/420). The garment plaques (comparable to those from the 24.6.1904 Kerch Tomb, Untersiebenbrunn, Regőly and Koudiat Zateur) have a long chronology throughout the Hunnic Period (Mészáros 1970, 87; Bierbrauer 1974, 76; Tejral 1973, 8.9, 253, pls 1, 2; Kiss 1983, 111; Tejral 1988, 253, 295). The rings, with Mosaic Style I patterns, have analogies with depositions in the third quarter of the fifth century (Kiss 1983, 111; Chapters Five and Six).

11. Kiss has reviewed the extensive literature in Hungarian on the find, and, following Bóna, attributes these objects to the Sciri (Kiss 1983, 96, 127). They argue for the presence of this Germanic tribe in the regions between the Danube and Tisza Rivers after the Hunnic occupation and before their losses at the Battle of Bolia and departure for Italy with Odoacer (ca AD 454 - 469) (Kiss 1983, 127).

12. Prior to that time, the Notitia Dignitatum lists suggest that swords were made in separate fabricae spathariae in Gaul (Ambianum, Augustodunum and Remi in Gaul) but within the general fabricae armorum along the Danube and in the Eastern prefecture (Sirmium, Salona, Verona, Mantua, Argentiomagus, Hadrianopolis, Marcianopolis, as well as Damascus, Nicomedia and probably Naissus and Thessalonica) (S. James 1988, 261, 300).

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CHAPTER FIVE

GARNET CLOISONNÉ IN THE EARLY BYZANTINE TRADITION

This chapter examines the evidence for the emergence of styles of garnet cloisonné in the fifth century AD that may be interpreted as belonging to an Early Byzantine tradition of production. The use of the term Early Byzantine is justified by the fact that variations of some of these cloisonné patterns persist into the sixth century AD, when they are found on Byzantine jewellery and overtly Christian ornaments, as well as upon 'barbarian' weaponry and dress ornaments. Kazanski has recently suggested that a group of ornamented sword guards (referred to in this text as cabochon bar guards) may reflect the distribution of Early Byzantine types (Kazanski 1988, 75-9). Prior to this, an analysis of the "stepped" rhomboids and mounting pastes of another group of cloisonné objects prompted Arrhenius to suggest that some of these may be actual Byzantine fittings, produced in organised workshops in Constantinople (Arrhenius 1985, 62-4, 101-13). Evidence for these two suppositions remains circumstantial, resting upon the uniform styles and contexts of these groups of fittings and their successors. Nonetheless, the following stylistic and technical analysis tends to support both of these hypotheses. In addition, this chapter demonstrates that a related group of ornaments have direct links with Late Antique/Early Byzantine jewellery.

Cloisonné objects which illustrate the hypothesis of official workshop production in the larger cities, or at least the strong influence of Early Byzantine styles, may be separated into three stylistic categories. One is a continuation of the proportional styles of inlaying incorporating cabochon bars, similar to that
found on the material preserved at Kerch, the **Cabochoon Bar Style**. In **Mosaic Style II**, curvilinear and complementary garnet plates were combined to form larger, continuous patterns. In the **Notched Plate Style** interlocking patterns were created by notching the edges of the plates. **Notched rhomboids**, one of the fundamental notched plate shapes, appear either as focal cells or as linked cells, replacing the simple rhomboids of the Unit Cell styles.

There are elements in all of these styles that overlap with one another and a few assemblages included objects in more than one of these styles. The Cabochon Bar and Notched Plate patterns are concentrated on weaponry mounts, buckles and Early Christian liturgical implements. A few ornaments were stray finds, and one cloisonné container came from the crypt of a Christian church, but most examples in these categories were included in high-status male burials deposited in the second Hunnic Period (± AD 420/25-455) and its immediate aftermath. With few exceptions the decorated objects comprise the hilt and scabbard fittings of *spathae* (double-edged longswords), together with the scabbard slides and sword beads used to suspend them (Appendix IV). The distribution of the ornamental fittings extends from Europe across southern Russia east to the Volga and to the Kuban region north of the Caucasus. These represent higher status versions of weaponry contemporary with the material reviewed in Chapter Four.

Mosaic Style II survives primarily on female jewellery - necklace pendants, buckles and *fibulae*, many with specifically Christian associations. One imperial-style *fibula* and a panel which may have decorated a box hint that Mosaic Style II may have been applied to a wider range of ornaments. The deposition of objects in this style in the middle third of the century may correlate with an increase in production. But it may also reflect intensified contacts between the Roman Empire and its border regions as there is evidence that features of the style span the
whole of the fifth century and continue into the sixth.

Almost without exception, the ornaments discussed below are of the highest quality, both in terms of execution and complexity of design. This fact also supports the theory that some of these objects were executed in major urban centres such as Constantinople and Antioch. At the same time the wide geographical distribution and broad range of object types may suggest that these urban styles, like the Late Antique styles reviewed in Chapter Four, were being imitated in regional centres. Before analysing these objects, however, it is important to clarify the technology that characterises those whose construction differs from those reviewed in Chapter Two.

Framework Cloisonné

The type of cloisonné construction called "cement cloisonné" by Arrhenius, characterises many, but not all, of the objects in this chapter. This technique requires careful consideration here as it forms, together with the stepped cell, the basis for Arrhenius’ hypothesis of the existence of a single Byzantine workshop in Constantinople supplying satellite workshops in central and western Europe (Arrhenius 1985, 101-26). Arrhenius saw three factors as characteristic of this type of cloisonné -

1) construction with cell walls soldered to the side walls but not to the backing plates of objects,
2) the assemblage of the components from front to back (or top to bottom), with a liquid paste poured over the plates and cellwork, and
3) the use of consistently-sized stepped rhomboids, produced with the aid of templates (Arrhenius 1985, 81-2, 84-6, 120-4).

A critical analysis of the template theory from a technical viewpoint was put forward in Chapter One and will not be repeated here. A brief analysis of the other two factors reveals a situation that is more complex that Arrhenius indicates.
Having illustrated cement cloisonné constructions with cell walls *not touching* the backing plate, her subsequent discussion blurs the distinction between this type of cloisonné and "clasped cloisonné" (band and shared wall cloisonné in this text), finding that some objects in the group actually do have cells, particularly central tubular cells, soldered onto the backing plates.

In the present text the term **framework cloisonné** is used to distinguish those objects where it is clear that the cell walls consist of a soldered framework of band cells, which may or may not come into contact with the backing sheet. Within this category there are several groups of objects that should be separated from one another, particularly when their method of construction is considered. Framework cloisonné appears on four classes of objects:

1) objects with a core, typically of polyhedral shape, formed of paste, then overlaid with a framework of gold cells and stones (polyhedral beads and earrings);
2) objects with a casing of bronze, iron or silver containing a thick bed of paste into which the cell and stone framework is set (sword guards and buckles);
3) objects with a framework top sheet, separated by a thick layer of paste securing the stones from a backing sheet, sometimes repousséd or engraved with representational motifs (primarily pendants); and
4) objects with a central cell (in various shapes) soldered to the backing plate, or with linear rows of identical cells with their outer walls soldered to the backing plate for structural stability.

The technological origins of some of the polyhedral objects constructed in the first and third classes may lie in the gold sheet and paste technique of inlaying, with the punched gold sheet reduced to a more delicate openwork resembling true cellwork. The other classes appear more closely related to band cloisonné, with strips of gold soldered together to form a framework in the shape of the cells, then either laid into cement, or spot soldered to the outer cell walls and backing plate. (Whether this technique preceded cloisonné *à jour* or *vice versa* as Arrhenius claims, is a chicken and egg question (Arrhenius 1985, 84)). In all cases, in addition to conserving valuable metal, this technique was particularly useful in the
Examples of both the first and third types of construction were present among the objects preserved at Kerch (Cat. nos 39, 49, 50). The objects in the second and third classes are characterised by thick beds of paste or cement separating the framework construction from the backing plate. Too few samples of the filling pastes used in these classes of framework cloisonné exist to specify what material was favoured in these constructions. Not infrequently objects in the third class are actually missing all of their paste filling and/or their stones (Cat. nos 48, 122, 123). The Pietroasa collar apparently had an organic filling; the cement of the Altiusseh sword guard (class two) was apparently primarily sulphur, but its exact composition must remain open until further tests are undertaken (p. 184; Arrhenius 1985, 81-5, 200-4). One Ostrogothic belt buckle (class two, late fifth/early sixth century) has either a pure gypsum or a gypsum, quartz and wax paste, a combination which may reflect a Byzantine tradition of garnet cloisonné (Arrhenius 1985, 100-2, 200-4). In many cases the overall weight of the final object might have influenced the choice of filling (Cat. no. 48), with sulphur or organic-based pastes drying to form lightweight and adhesive compounds.

Weight and a three-dimensional form were not, for the most part, a concern in the construction of objects in the fourth class, where a framework of cells rests directly on the backing plate, and in some instances is spot soldered in areas other than the primary structural cells. Arrhenius' samples of pastes in the fourth class of construction reveals primarily carbonate and sulphate-based pastes, that is, calcite (or aragonite) and/or gypsum mixed with quartz. The gypsum, when heated, served to harden the paste into a "cement", although it is not clear how well the goldsmiths understood or purposefully exploited this property (Arrhenius 1985, 85). Other objects, however, have carbon, plant material or wax, mixed with quartz (ie sand), as main constituents in their paste (Arrhenius 1985, 84-6,
We shall return to the subject of gypsum-based pastes and their diagnostic significance in Chapter Six.

Bearing these technical considerations in mind, the examination of one of the more straightforward types of framework construction, cabochon bar sword guards in the second class defined above, provides a basis for the theories to be advanced in this chapter.

**Cabochoon Bar Style**

The continuation of the Mosaic Style incorporating cabochon bars provides the strongest circumstantial evidence of a tradition of garnet cloisonné manufacturing that might be considered Byzantine. A group of broad cloisonné sword guards, recognised as a cohesive, continuous series (Garscha 1936, 196-7; Böhner 1948, 222-34), forms the core of the second phase of production in this style. These are referred to here as *cabochon bar* sword guards.

The surviving cabochon bar sword guards are characterised by the use of vertical garnet bars or rods to delineate the primary design fields across the front surface of a guard. Typically these bars are set on the outer edges and down the centre of the guard. The resultant bilateral fields resemble the guard and hilt ornaments from the longsword from the 24.6.1904 Kerch tomb, but with single geometric plates replaced with an expanded repetitive pattern. As with the vertical rectangular plates on the Kerch fittings, the height of the cabochon bars corresponds to the height of the overall design. Moreover, the width of the bars often represents a proportional fraction of the width of the geometric plates they surround. The design and grinding of the stones was thus rationalised in a fairly demanding manner, predetermined to some extent by the precast casing which contained the cloisonné framework.
The majority of the guards are flattened ovals or lozenge-shaped in cross-section, composed of a container section in cast bronze or iron, curved on the reverse and flat on the front. Some may have been cast with integral bronze cell work, but most had casing sections filled with cement into which the garnet plates and their gold framework were set, secured by the hardening of the paste and burnishing of the cell walls over the stones. A clear diagram of the structure of these guards was presented by Garscha and confirmed by X-rays of the body of the Altlussheim guard (*Pls 7.1, 1a*; Garscha 1960, fig. 1).

The first extended examination of the Altlussheim sword by Garscha in 1936 recognised that several other swords bore guards closely related to this type (Garscha 1936, 196-7). Garscha argued that the Altlussheim sword and related swords were of southern Russian manufacture (Garscha 1936, 196-7; 1960, 316-17.) Böhner likewise classed the long sword from Altlussheim in his Group I, together with other southern Russian swords with *Zellenstabchen* (cell-rods) such as that from Kerch (Böhner 1948, 224-6). The cabochon bar type of sword guards may now be augmented with examples of inlaid guards from excavations in Soviet Abkhazia and Georgia. These have been briefly presented by Kazanski and Tomka (Tomka 1986, fig. 23; Kazanski 1988, 76, 78, fig. 3; Kazanski and Périn 1988, 28). The relative chronology of these sword fittings remains difficult to determine. This survey begins with the well-published Altlussheim guard, whose heart-shaped plates are related to cell shapes and sizes from the period of production preserved in the Kerch tombs (ca AD 380-420) (Cat. no. 115; *Colour Pl. VIII.2*).

A justifiably famous piece, the large and well-preserved Altlussheim guard presents a multiplication of the bar pattern with nine cabochons flanking six registers of hearts. The twenty-nine heart-shaped garnet plates (one stone replaced) on the Altlussheim guard have an average greatest width of eight millimetres set,
nine millimetres unset. The width (or diameter) of the bars is three millimetres, or one third of the heart-shaped unit cells. The pattern on this sword was thus created using plates of the same proportional scale as the Unit Cell and Mosaic Style I cloisonné from Kerch. In this case laboratory x-radiographs suggest that the bars are actually rods, that is to say, they are cylindrical in section. All of the bars show diagonal "breaks", and while it is not impossible that this is the result of damage, an examination of this and other sword guards suggests that this was purposeful and necessitated by the unavailability of stones of the desired length. The diagonal edges of the stones are carefully joined and placed adjacent to the upper portion of the design elements so as to minimise visually the join. It will be recalled that on the hilt and guard fittings on the scabbard mouthpiece on the Kerch longsword the stones ground into cabochon bars were also not long enough to span the entire height of the design (Cat. no. 45).

Arrhenius' analysis of the paste filling of the Altlussheim guard indicated that it was composed of aragonite with calcite (Arrhenius 1985, 106). This contradicted the findings of the laboratory in Karlsruhe, which concluded that the bronze casing held a moulded sulphur filling (Pl. 7.1a; Garscha 1936, 192; 1960, 315). On the basis of her analyses, Arrhenius felt that the Altlussheim guard was among the first swords made by the western European workshop that produced the sword guards from Planig and Eich. She speculated that the garnets of the Altlussheim sword were cut in a central workshop in Constantinople, mounted as a panel on a wax backing and imported to the west where they were assembled into a sword hilt (Arrhenius 1985, 106-7). According to her theory, this confirmed the early existence of a 'satellite' workshop on the Rhine with unique mounting pastes which it used for three-quarters of a century or more.

The present expanded evidence and distribution of these sword guards does not support Arrhenius' hypothesis. While there is evidence that ground plates
might have been traded, the notion of trading semi-assembled, fragile panels is
difficult to justify. The Planig sword was found with a solidus of Leo I (AD 457-
74), but typologically it falls in Menghin’s Zeitgruppe C (AD 530-70) which he
correlates with the material complexes of Böhner’s Stufe III (approximately 525-
600) (Menghin 1983, 36-40, 59, 224). The cross-sections of these later European
sword fittings, their cloisonné patterns (in the second phase of the Carpet Style),
and distribution confirms that they are European products of the sixth century
AD.3

Both the acquisition and assemblage of the Altlussheim sword fittings most
logically occurred east of the Rhine. The chape itself on the Altlussheim sword
was cut from lapis lazuli in imitation of Chinese bronze sword guards. The chape
fittings are not related to the characteristic U-shaped fittings from European
swords, but may be compared to those excavated from Grave 500 at Dyurso in
Soviet Abkhazia, probably from the second half of the fifth century (Dmitriev
1979, fig. 10.6,7). Grave 300 at Dyurso had a silver buckle loop in line with a
chalcedony sword bead (below; Dmitriev 1979, 222). It is possible that the silver
buckle loop without a plate found with the Altlussheim sword was intended to
affix a suspension strap through the scabbard slide against a missing sword bead.
A similar buckle loop in gold and a sword bead were included in the Wolfsheim
assemblage, another high-status burial along the Rhine with eastern features. The
Altlussheim burial, like the high-status burials at Pouan, Tournai and Blučina, also
included a seax (a single-edged short sword). The combination of these two
weapons appears to have spread from the East to the West in the fifth century
(Appendix IV).

Garscha proposed a manufacturing date around the middle of the fifth century
for the Altlussheim guard. The evidence for the development of the Unit Cell and
Mosaic Style I styles of cloisonné, discussed in Chapter Three, would tend to
suggest that this guard, with its standardised Unit Cell plate shapes, belongs to an earlier phase of production. There would seem to be no reason to assume either manufacturing or deposition dates after the middle of the century, and, on balance, production in the second Hunnic Period seems acceptable.

This is likewise true of the fittings on an unrestored sword in the collection of the Museum für Ur- u. Frühgeschichte in Berlin (Cat. no. 116; Fig. 84). Garscha attributed this sword to the Taman Peninsula, but its most recent publication gives only southern Russia as the provenance, with no specific find spot (Menghin 1987, 106). Linked horizontal rhomboids recall the sword fittings at Kerch, Beja and Pouan; circular plates in bands along the scabbard mouthpiece likewise relate to both Unit Cell plate shapes and technology. Overall, like the Altlussheim guard, this piece gives the impression of a multiplication and recombination of simple forms to suggest a more complicated design.

Mouthpiece fittings with upside-down bird heads decorate spathae scabbards from Pleidelsheim (Baden-Württemberg) and Ermihalyfalva (Siebenbürgen, Romania), in Menghin’s Zeitgruppe A (Menghin 1983, 186, 188). Menghin suggests a range between AD 408-480 for the group of objects that includes the Pleidelsheim sword. A solidus of Theodosius II datable to AD 443 provides a terminus post quem for the Ermihalyfalva burial (Werner 1935, 31, fig. 2; Menghin 1983, 55, 58-9). While this supports this type of mouthpiece being current by the middle the century, at least in the West, it can only suggest an approximate time frame for the more elaborate and costly cloisonné guards.

Until a fragmentary cabochon bar framework, separated from its bronze casing, was excavated from a disturbed burial near Novorossiysk on the Dyurso River, the cloisonné of each of these sword guards appeared to present a unique design. The guard from Grave 479, however, was decorated in a similar manner to a guard discovered earlier this century at Vol’naya Voda (Dmitrievka), near
Osipenko on the Sea of Azov, whose present whereabouts is unknown (Cat. nos 117 and 118; Figs 85-6). Both were set with thumbnail-shaped plates and matching notched rectangles. A single cabochon bar, carved with diagonal grooves in the manner of a barley stick, survived on the Dyurso guard. Old drawings of the Vol’naya Voda guard show three similarly carved bars dividing the fields of the guard. The latter was surmounted by a hilt section in the manner of the Berlin guard and was accompanied by a chalcedony sword bead (Werner 1956, 122). The large thumbnail-shaped plates relate both guards to the lonsword scabbard panel at the 24.6.1904 Tomb at Kerch as well as to the plates on the horse-trappings from Morskoy Chulek (Cat. no 42; Colour Pl. II.1c; Comp. pl. 12.1-2). The combination of notched plates and carved bars are features associated with cloisonné found in depositions in the West datable to the second half of the fifth century.

The excavators at the Dyurso site noted that the inlays on the damaged guard from Grave 479 were flat on the upper side and rounded on the back side. This corresponds to the description of the garnet stones on the Altlussheim and Arcy Ste Restitue guards and may suggest that some stones were ground and polished flat on one side only while still secured in a paste base.

The fragmentary condition of the grave goods of Grave 479 does not permit extensive chronological comparison. The initial report on the Dyurso finds does not evaluate the chronology of this very large cemetery, proposing only a fifth-century date for the horse graves (Dmitriev 1979, 221). The earlier phase of the large cemetery on the Dyurso River produced sixteen horse burials and several wealthy graves located three to eleven metres to the left sides of the horse skeletons (Dmitriev 1979, 212-29). An empty bronze casing of another sword guard, its hilt section still intact, was found with a double-edged long sword in the filling 15 cm above the level of horse skeleton no. 13 (Dmitriev 1979, 218, fig.
Although it was not possible to match each horse and human burial, five of the horse burials that appeared to correspond to the richer human burials contained hard nomadic-style saddles covered with pressed gold plates with feather ornament. The ornamentation of the Dyurso saddles and scabbard laps (sheets of gold stamped with feather patterns) relates to Attilanic period finds from Europe such as Pécs-Üszög, Kiskunhalas, and Pannonhalma in Hungary, Jakusowice, Poland, Mundolsheim, Austria, as well as to other Sarmatian finds in the Caucasus. Small finds from these burials also share connections with Hunnic burials in the Siberian Altai, at Noin-Ula and Sudjinsko (Dmitriev 1979, 221).

Kiss suggests that the Dyurso saddles may be as late as the last third of the fifth or even the early sixth century (Kiss, 1984, 192-3). One of the female plate brooches included as an offering in another wealthy grave associated with horse burial 300 falls in Ambroz’ type IIb, datable to the second half of the fifth century (Ambroz 1966, 87, pl. 6, 2, 160). A deposition date in the second half of the fifth century seems probable for the Dyurso guards, although their extremely damaged condition might be taken as an indication that they were heirlooms.

The final cloisonné guard reviewed here, in the collection of the Hermitage Museum in Leningrad, has no assured provenance, but may be from Kerch (Cat. no. 119; Fig. 87). It incorporates notched plates like the Vol’naya Voda guard, and was accompanied by a small fitting with a stepped rhomboid plate (Cat. no. 133; Fig. 99). The violet, highly polished cabochon bars of the Hermitage hilt are composed of two separate sections, set so as to blend with the design. Quarter circles, curved circular sections and pinched tabular cells seem most closely related to the plate shapes from Mosaic Style II as well as other cabochon guards.  

There would seem to be no other reasonable interpretation of the consistent
patterns and technology of these cabochon bar sword guards, recognised in even the earliest publications as a coherent group, except production and simulation by artisans working with a specific model in mind. The fact that two guards with similar patterns among such a small sample have come to light confirms that some designs were replicated. As with the material preserved at Kerch, the degree of replication tends to suggest a permanent workshop(s), geared up to production on a small industrial scale.

If and to what degree there was any coordination or centralisation involving official authority remains speculative. It seems unlikely, however, that many artisans had both the access to garnet stones and the capability to grind numerous consistently sized plates. The observation that some of the cabochon bars were pieced together from two pieces of stone argues for the presence of a skilled gem worker at the time of assemblage, and against the stones being traded. The bronze casings holding the cement and framework cloisonné appear to be almost identical in size, but only a laboratory analysis of the metals as well as the pastes might justify the conclusion that they were necessarily produced in the same place. Arrhenius' concept of central and satellite workshops, expanded to southern Russia and the Caucasus, remains a viable model for the exchange of current designs and technology, if not for actual elements of the swords such as guards or hilts.

Kazanski also argued for the rôle of the Early Byzantine Empire in the distribution, if not necessarily manufacture of, arms and armour fittings such as *plumbatae*, shield bosses and cloisonné sword guards found in European as well as Pontic and Mediterranean sites (Kazanski 1988, 75-6). Now that the numbers of the group of sword guards is increasing (Kazanski cites yet another unpublished guard in this group from a settlement site in Kartamysevo, east of the Dnieper), this is a very convincing proposition, albeit still extremely difficult to prove in the
almost complete absence of material demonstrably from a non-provincial Early Byzantine context.

Kazanski follows the hypothesis that the Crimea was the primary source of these fittings, but, again, the manufacturing situation may be a great deal more complex than archaeology reveals. Fittings could have been produced in major urban centres with arms factories, such as Constantinople and Antioch, and then imitated by regional workshops in the Pontus, Caucasus and Mediterranean. A pattern of hearts separated by triangles, similar to that on the Altlussheim sword, for example, appears on a bronze cloisonné mount from Syria in the Ashmolean Museum collection, Oxford (no. 1942.225).

The longsword guard preserved at Kislovodsk, Soviet Abkhazia, if not simply a lower quality fitting, may provide another example of a regional variation of a popular pattern (Fig. 88). The cast iron guard from a wealthy family catacomb was overlain with bronze settings filled with stone and glass in a shallow cavity rather than a bed of paste. The carved bars and domed circles in the two fields are of coloured glass, with the garnet inlaying reserved for small oval, triangular and tooth-shaped cells. Catacomb no. 10, at Lermontovskaya Skala 2, unfortunately robbed, was the richest of the hundreds of early burials in the Kislovodsk Valley in the Northern Caucasus (Runich 1976, 256-66).

The late fourth- to early fifth-century date suggested by its excavators on the basis of the glass vessels in the tomb is probably too early in view of the fact that comparable Hunnic horse bits and trappings in the West are dated to the middle of the fifth century (Tomka 1986, 449, 452). The bronze and silver buckles and harness fittings from the grave were covered with gold leaf and inlaid with small garnet plates in what appears to be a local variant of the Rectilinear Style.

One further sword fitting, set not with cabochon bars, but with the even rarer oval cabochons, links this style of inlaying to the Eastern Roman Empire. This is
the *seax* chape fitting from Blučina, a high-status grave possibly deposited in the fifth or sixth decade of the century (Chapter Six) (Cat. no. 120; *Pl.* 14.1). Here similar compositional principles are at work, with the greatest dimensions of the oval cabochons corresponding to the width of the notched rectangles. The finely beaded wire border and the scabbard mounts with garnet plates polished with a median ridge are features that relate to lapidary work of the middle and second half of the century. The *seax* fitting is unique in the archaeological record, but indicates that the Cabochon Bar Style should be modified to a broader "Cabochoon Style".

The sense of a Pontic radius for cloisonné work incorporating plates and cabochons is not diminished, but the fact that the sites with cabochon bar guards represent a deposition pattern alone must not be lost sight of. Cabochon bars of similar length and quality (perhaps even higher quality as they appear not to be pieced) are set on pairs of bracelets from Tombs 40 and 42 at Armazis-khevi (*Fig. 44*; Apakidze et al. 1958, 129, 136-7, pl. xiii.1, 2). Clearly, similar stones were being set on luxury jewellery and it is probable that the distribution and employment of these stones was wider than the archaeological record reveals.

Two further examples of garnet cloisonné with cabochon bars illustrate Early Byzantine luxury production with these stones. The so-called Nagy-Mihaly *fibula* belongs within the Mosaic Style and, accordingly, is discussed in the following section, but the gold casket from Djanavar, outside Varna, Bulgaria, reflects production in the proportional Cabochon Bar Style (Cat. no. 121; *Pl.* 7.2).

Found buried below the altar in the church at Djanavara, outside Varna, Bulgaria, the gold casket contained pieces of bone and splinters of wood, perhaps believed to be relics from the True Cross (Buschhausen 1971, 263-5, no. C1, pls C1-3; Hoddinott 1975, 325-329). As swastikas are recorded among Early Christian symbols (Sulzberger 1925, 432), there is no reason to believe it was not
constructed as a specifically Christian artifact. Sarcophagi-shaped containers such as those that enclosed the casket are well-documented Early Byzantine types from the sixth century AD (Frankfurt 1983, 567-8), but the cloisonné casket has been presumed to predate them by a century or more (Buschhausen in Weitzmann 1979, 631-2).

The combination of pale blue sapphires and a large emerald of good colour compares favourably with those on Late Antique ornaments such as the necklaces from the Carthage and Piazza della Consolazione treasures or a group of diadem segments in the Louvre Museum, Paris and the Walters Art Gallery, Baltimore; both of the latter are presumed to be from Syria (Tait 1976, 125, no. 186; Ross 1965, ii, 1-4; Coche de la Ferté 1962, pl. iv; Weitzmann 1979, 305, no. 277). All of these finds have been presumed to date around AD 400, although there is no reason to suppose they may not be later. The treatment of the swastikas as discrete units, rather than linked elements of a Greek key motif, appears on Late Roman and Late Antique mosaics (Comp. Pl. 9.1; Ben Abed-Ben Khader 1987, 27, pl. xiv, 268, corridor xvi, second half of the fourth century AD).

Chevron-shaped garnet plates such as those along the draw plate of the lid are, at present, rare in the fifth century, known only on a high-quality strap end from the deposition at Szeged-Nagyséksós, datable within the second Hunnic Period (below). The L-shaped garnet plates used to compose the swastikas are also unusual for the fifth century, although some sharp right-angled plates do appear in Mosaic Style II ornaments (Cat. no. 122). Chevron-shaped cells are a prominent feature of Ostrogothic period cloisonné (Bierbrauer 1974, pls xviii.1, xix.1, xxi.1, xxx.1,2, xl.1, lix.3). One other prominent employment of swastikas in cloisonné, on horse bridle fittings from Deersheim, Germany, also included mounts with chevron-shaped cells (Werner 1961, 37, no. 168; Roth 1979, no. 305). This burial is conventionally dated circa AD 500. (Here, however, each L-
shaped inlay is pieced together with two sections of stone.)

In terms of the cloisonné shapes and the small scale of the plates, a date in the second half of the fifth century seems most satisfactory for the casket, accepting that similarly fine work from earlier decades may not have survived. The edict issued during the reign of Justinian limiting the incorporation of sapphires and emeralds to imperial Byzantine jewellery only (Chapter Three, note 9; Cod. Just. 11.11.1, AD 529-34), might be taken as further evidence for the production of this casket before the first quarter of the sixth century.

Architectural similarities with other Early Christian churches in Bulgaria and Palestine lead Bulgarian researchers to propose that the Djanavara church was constructed in the fifth or sixth century by the large Syrian community which is known to have lived in ancient Odessos (Hoddinott 1975, 329; Minchev 1986a, 112). This supposition, taken together with the high quality of the casket, suggest that it originated from an urban centre such as Antioch or Constantinople. Whatever its precise date, it provides clear evidence that proportional Cabochon Bar Style designs in high-quality cloisonné were not limited to weaponry ornaments found in barbarian contexts. This is also true of the cloisonné in Mosaic Style II, which was primarily used to decorate female jewellery.

Mosaic Style II

Objects classified in Mosaic Style II link individual motifs into an extended pattern in the manner of floor mosaics, covering a surface with repetitive forms. While individual units of the pattern might retain focal cell shapes, more typically all of the shapes are of equal significance within the pattern of the design. As in the Cabochon Bar Style, some objects in this Style are executed in framework cloisonné. They fall in the third and fourth classes of this technique, described
above, with either a framework top sheet separated from a backing sheet by a bed of cement, or a framework spot-soldered to a backing sheet. More than any other fifth-century style, the objects in this section illustrate the absorption of garnet cloisonné into broader traditions of antique jewellery manufacture.

The association between metalwork and mosaics motifs is an ancient one. One recent analysis of mosaic patterns notes that all evidence suggests that feather (sometimes termed scale or imbrication) patterns in mosaic pavements derive from contemporary metalwork; intersecting or linked circles also have predecessors in metalwork (Ovadiah 1980, 154-8). Arrhenius has compared cloisonné designs juxtaposing complementary cells to mosaic work, although, of course, numerous stones in a mosaic would be combined to form any one section of the pattern (Arrhenius 1985, 57-8). The primary motifs discussed here - circles enclosing diamonds, linked circles or quatrefoil diaper, feather or scale patterns and running circles - have predecessors in Egyptian, Western Asiatic, Mycenaean and Graeco-Roman enamel cloisonné. Contemporary parallels exist in silver working (Comp. pl. 9.2, 3), and variants of this cloisonné style survive in sixth-century Early Byzantine jewellery.

In the cloisonné designs discussed below, the following garnet plate shapes are found, in addition to the shapes present on Mosaic Style I:

1) oval or teardrop shapes;
2) feather shapes;
3) semi-circular shapes;
4) quatrefoils;
5) stepped rhomboids;
6) diamonds;
7) free form shapes; with
8) notched trapezoids, triangles and circular sections as auxiliary shapes (Fig. 8).

Although the combination of these plate shapes produced complicated designs, most are easily ground, as are the other shapes probably produced for
mass production. Many works in this style are superbly executed, employing shared wall and band cloisonné as well as framework cloisonné. Pearls, mother-of-pearl, and malachite were incorporated in addition to green glass.

One segment of a Mosaic Style II design appears on buckle plates from Koudiat Zateur and the 24.6.1904 Kerch Tomb (Cat. nos 49, 113). The two buckles with cabochon bars from the Hospital Street catacomb as I.P. Zasetskaya has noted (personal conversation), are not typical of the majority of items found at Kerch. They are constructed in a mixture of framework and shared wall cloisonné. Square bronze belt fittings inlaid with garnets and glass in this pattern were excavated from fifth-century graves in the Roman necropolis outside the Callatis, Romania (Preda 1980, 44, 110, colour pl. xxvi.M316, pl. lxxxi). It was suggested in Chapter Three that the motif of a circle enclosing a diamond related to Late Antique mosaic, metalwork and textiles. The evidence from these sites suggests that both this particular motif and Mosaic Style II were known in the Pontus and the Mediterranean Basin in the first half of the fifth century.

Three further examples of circles enclosing diamonds illuminate the development of the motif the Early Byzantine cloisonné tradition. Two registers of the pattern, expanded to create a quatrefoil diaper, decorated a pair of hinged plaques in the Kudenetov tomb (Cat. no. 122; Fig. 89). Most of the cells are empty on this example of the particularly fragile, third class of framework construction. The function of the plaques remains obscure. A hinged pair of rectangular plaques, presumably forming a cloak clasp, were excavated at the shoulder of the woman in Kurgan no. 5 at Gilatsch near the Kuban River in the Caucasus (Minaeva 1982, 231-2, fig. 7). These were half the size of the Kudenetov plaques, however, which perhaps decorated an item like a purse.

The Kudenetov deposition has never received a full scholarly publication, so some caution must be used in its discussion. The assignment of the Kudenetov
cheekpiece to the first half of the fifth century (Harhoiu 1977, 27 suggested the period of Attila) seems justifiable, but the deposition date of the unclosed find must take into account a buckle belonging typologically in the first half of the sixth century (Gening 1979, 99-101). Other features of the deposition also may be related to material with a mid- to second half of the century context, suggesting this is a more prudent time frame for the deposition of the goods. The four small fittings (or psuedo-fibulae as Fettich called them), with circular projections to the sides of the head and footplates, may be compared to the fibula at Gilatsch, dated to the fifth century (Fettich 1953, 195, pls xxxviii.4, 5; Minaeva 1982, 231-3, figs 6, 7).10

The Christian medallion from Cluj-Someșeni, Romania (Cat. no. 123; Colour Pl. IX.1, 1a), with a framework of circles enclosing diamonds between the arms of the cross, was also constructed in the third class of framework cloisonné and was likewise missing its inlays. The plates and cabochons that were recovered are typical of Mosaic Style II shapes (Horedt and Protase 1970, 91, pls 3a, 3f, 3l). Some of these were ground as convex sections. The salient features of this piece, as Horedt and Protase have detailed, relate it to Late Antique and Early Byzantine productions in the Eastern Mediterranean and southeastern Europe (Horedt and Protase 1970, 91-2). The objects discussed in Appendix II provide additional evidence as to its probable suspension in a breast chain, rather than as a pendant.

Horedt and Protase argued that the objects in the hoard represented the costume of an eastern Germanic Christian princess (Horedt and Protase 1970, 90, 96). Based on the similarity between the types of objects in the Cluj hoard and the finds from Dunapataj-Bödpuszta, Olbia, Reggio Emilia and Apahida, they dated the hoard within the third quarter of the fifth century (Horedt and Protase 1970, 95-6, fig. 5). While the ensemble represents a range of ornaments available by the second half of the fifth century, the fragmentary condition of many of the
pieces suggests that this represents a jeweller's hoard rather than the possessions of an individual.

The cloisonné at Cluj may be compared with material from the middle and end of the fifth century. The pattern of the rectangular buckle plate from the Cluj find, a stepped rhomboid matched by oval plates at the corner, is similar to that on a small fitting which accompanied the Cabochon Bar sword guard in the Hermitage (Cat. nos 133-4; Figs 99, 101) and to the strap ends from a set of fittings in Dumbarton Oaks (Cat. no. 135; Pl. 11.2). These, on other grounds, may belong around the middle of the fifth century. The inlay pattern of the Cluj medallion includes notched triangles set above double cabochons - a pattern that appears on a pair of recently-discovered Ostrogothic period earrings of the late fifth or early sixth century from Italy (Sotheby's, Antiquities, sale catalogue, London, 12/12/1988, 22-3, Lot no. 53).

The decorated backing sheet of the Cluj medallion is of particular interest in the context of this chapter (Colour Pl. IX.1a). Repoussé gold backing sheets are preserved on a number of Early Byzantine ornaments from the fifth and sixth centuries, some of which are executed in garnet cloisonné. Surviving examples are generally confined to women's jewellery, often of a Christian nature (Figs 91, 93, 95; Horedt and Protase 1970, footnote 18), but there are significant exceptions (Cat. no. 171; Roes 1947, 183-7). Cross patterns similar to those at Cluj are preserved on the backs of Early Byzantine garnet cabochon pendants from Djiginskoe (Michaels'feld), Anapa, Soviet Abkhazia. Coins of Justin I (AD 518-26) and Justinian II (AD 527-64) set in the clasps of these pieces establish a terminus post quem for the necklace, if not necessarily the pendants (Moscow 1977, 116, 159). Unlike much of the garnet cloisonné, preserved outside the Roman empire, the distribution of objects with decorated gold backing sheets confirms their presence in the major cities of the Pontus and Italy (Map 7). Datable examples,
ranging from the first half of the fifth to the late sixth century, have parallels on garnet cloisonné objects.

The palmettes chased on the backing sheet of a necklace pendant from the Piazza della Consolazione treasure found in Rome (Fig. 90; Zahn 1929, 57-8, pls 59 and 60, no. 113; Ross 1965, no. 1; Weitzmann 1979, 309, no. 283), for example, are closely paralleled on the necklace pendant from ancient Olbia, in present-day Soviet Ukraine (Cat. no. 124; Pl. 8.1a). The top gold sheet of the Roman medallion was also decorated with leaf patterns around individual cabochon gems or plates.

The Olbia pendant is set with a cloisonné framework of circles enclosing diamonds, alternating with circles enclosing crosses around a large central garnet stone. Ross also noted the similarity between the lion-head clasps of the Olbia necklace to those from another of the Piazza della Consolazione necklaces. His proposed dates for the Italian hoard, from the late fourth to early fifth century (Ross 1965, 1, 117-18) should probably be advanced with the discoveries at Cluj-Someșeni. A medallion of the emperor Honorius (d. AD 427) in the Piazza della Consolazione hoard still provides a terminus post quem for these objects.

Other aspects of the Olbia treasure have affinities with objects from the second half of the fifth and early sixth century. The ear-rings with stepped rhomboidal cells from the find have parallels in the Ostrogothic find from Reggio Emilia, Italy, found with sixty mint-condition Byzantine solidi, ranging in date from AD 450-93 (Bierbrauer 1974, 302-9, pls xxxii.3, xxxiii.7,8). The sharp right-angled shapes of the cross-shaped stones and the scale of the inlays are comparable to the Djanavara-tepe casket. The pressed gold sheet busts on the necklace clasps also relate to early sixth-century Ostrogothic material from Nocera Umbra, Italy (Ross 1965, 118).

There are enough points of comparison between the Piazza della Consolazione
treasure and the Cluj and Olbia finds to suggest that these all should be dated from the second quarter to the second half of the fifth century. The Piazza della Consolazione treasure, for example, also contained an ear-ring set with radiating pearls on wires, in the fashion of the Cluj medallion (*Comp. pl. 13.1*). The construction of the Piazza della Consolazione medallion is comparable to framework cloisonné in the third class. Together these examples provide clear parallels between Early Byzantine jewellery in Italy and fifth-century cloisonné production in the Byzantine tradition in the Eastern Empire and its surrounding regions.

The notable difference in quality between the decoration of the Cluj and Olbia gold backing sheets suggests that the former is a less than adept imitation of a known style. The undulating parallel lines on the Cluj plate may be compared to the tighter version of the same motif on the Pietroasa gold plate (Odobescu 1976, figs 30 and 33) and prompts the speculation that these are both products of local Danubian or western Pontic workshops imitating Early Byzantine styles. As with the Cabochon Bar sword guards, the incorporation of Mosaic Style II cloisonné patterns with decorated backing sheets may be the result of widespread fashions rather than evidence of production from a single workshop.

As the range of decorated gold backing sheets includes waffle patterns and feather patterns, both of which occur on garnet cloisonné backing foils, it is tempting to speculate that the origin of these foils lies ultimately in Late Antique and Early Byzantine jewellery. A bracelet from Ravenna is of interest in this context, as is a fragmentary torque from Achterberg, near Rhenen in the Netherlands (Fig. 92; Rupp 1937, 63, pl. xiii.6, 7; Roes 1947, 183-7). The backing sheets of the Ravenna bracelet include stamped feather patterns, waffle patterns and triangles as well as the more common palmettes and rosettes. The Rhenen torque, with a backing sheet with repoussé panels of palmettes and glass
cabochons secured in paste on the front, probably represents a type worn by imperial barbarian bodyguards (for instance, Delbrueck 1933, 147-51, fig. 46, pl. 96). Its Latin inscription giving its weight, value, and its maker's or owner's name, suggests it represents Roman workmanship, perhaps as early as the third quarter of the fourth century (Roes 1947, 186).

Two ornaments in the shape of birds-of-prey may also be drawn into the range of Early Byzantine production. The first was found in 1812 in a partially robbed and destroyed catacomb burial at Concejsti in Soviet Moldavia (Cat. no. 125; Pl. 9.1, 1a). Superbly-fitted stones, well-preserved mother-of-pearl and sophisticated backing foils distinguish the eagle fitting from Concejsti among all fifth-century finds. The central group of backing foils are scored with feather patterns similar to those on the Ravenna bracelet.

The types of burial goods from the Concejsti tomb are comparable to those in other high-status graves containing top-quality cloisonné, such as Kerch and Apahida. As in those burials, the silver vessels are of high quality and from imperial Eastern workshops. The bucket from the Concejsti find, for example, is inscribed with its weight in Greek in the manner of metalwork emerging from imperially-controlled workshops. The fact that the helmet in the grave was of an Eastern Roman army type (Kent and Painter 1977, 139) implies that its owner probably served a military commission in the Empire.

Literature on the silver vessels from the find is considerable; a date in the late fourth century or around AD 400 has been proposed for all of them (Effenberger et al. 1978, 87-93, 136-7). On the basis of the silver, various researchers have dated the grave to the first decade of the fifth century (Kent and Painter 1977, 139) or between AD 410 and 420 (Matsulevich 1934, 32; Harmatta in Fettich 1953, 107). The eagle fitting, like the strap ends in Rectilinear and Mosaic Style combination included in the burial (Cat. no. 79), shares features with material from the first
Hunnic Period. Like some objects from the 24.6.1904 Tomb and Tomb 145 at Kerch, the silver backing panel of the eagle suggests that it was permanently secured against a flexible leather or even a thick fabric backing. If not a part of the horse harness it may have decorated a belt, purse or baldric.

Tomka has recently pointed out that the Concești grave goods also included items of later Hunnic character. Among these were a copper sheet covered with gold and studded with cabochons and a fragmentary stamped gold sheet fitting from horse harness (Matsulevich 1929, 126-128). Parallels for this latter fitting are currently dated to the second Hunnic Period (the finds from Zdvizhenskoy (Stravropol), Nizhnaya Dobrinka (Saratov, District Kamyschin), and Pécs-Üszöb and Pannonhalma in Hungary (Tomka 1986, 451, 458, figs 7 and 22; Zasetskaya 1986, 81-3, group ZCG1b). This suggests a deposition date for the burial within the second Hunnic Period, or perhaps on the cusp between the two periods.

The extraordinary quality of the Concești eagle mount in comparison to other surviving cloisonné raises the possibility that this might represent Early Byzantine workmanship. If high-quality silver vessels were the products of imperial workshops, it does not seem illogical to suggest that some extremely high-quality garnet cloisonné also emerged from these workshops. If silver plate was given as gifts to faithful allies, could not cloisonné fittings also have been included among those gifts? If its owner did serve in the Eastern Roman army, he may just as well have purchased such a cloisonné fitting, as received it in recognition of his rank or achievements. The contrast between the Hunnic fragments and the garnet cloisonné pieces as well as between the eagle mount and the strap ends emphasises how burial goods commonly reflected a lifetime of acquiring objects from different sources.

The Concești eagle appears to be an early survivor of a long line of bird fittings whose rarity in the fifth century may be an indication of the degree of their status.
The eagle *fibula* from a female burial at Ossmannstedt (Weimar)(Cat. no. 126; *Pl. 9.2*) came from a rich grave with a mixture of grave goods reflecting Roman and barbarian culture. The woman had an artificially formed skull. Schmidt interpreted this grave as that of an Ostrogothic princess, who came to Thuringia during the Pannonian phase of the Ostrogoths (AD 454-73), and suggested that the cloisonné was present as a result of her Ostrogothic connections (Menghin 1987, 477, 488).

Leaving aside any historical justification of either her ethnicity or presence, the assemblage is representative of a status grave of the second Hunnic Period or its immediate aftermath. The eagle *fibula* is related less to sixth-century Ostrogothic production preserved in Italy, than to the Apahida material, the ethnicity of whose owners is highly disputed. Most significantly, in addition to its high quality, the Ossmannstedt eagle is backed by a gold sheet decorated with a naturalistic representation of an eagle. If this sort of ornament was not emerging from the same artisans/workshops that were producing Early Byzantine jewellery, then it was certainly made in awareness and imitation of those styles. Naturalistic animals in a vine scroll likewise decorate the gold foil backing of a cloisonné fitting in the Carpet Style preserved at Kerch (Cat. no. 171; *Pl. 9.3, 3a, 3b*). The style and poses of these find a close parallel in the inhabited vine scroll at the base of the silver pitcher from the first grave at Bolshoi Kamenets (Matsulevitch 1934, pl. 5). This had a silver control stamp on its base indicating manufacture in Constantinople in the late fourth or early fifth century AD (Dodd 1961, 4-5, no. 84).

The appearance of decorated backing sheets on cloisonné objects illustrates the absorption of garnet cloisonné within the broader traditions of jewellery manufacture in the Roman Empire. Arguably garnet cloisonné constituted only one facet of the lapidary skills necessary for stone preparation and setting. Workshops may have produced jewellery for a wide range of clients, including people of
barbarian descent. There were, of course, varying levels of skill and quality amongst different artisans, as illustrated by the Cluj medallion backing.

Objects such as the buckle from Regőly, Hungary, also suggest that local artisans, outside of urban centres, were imitating these ornaments (Cat. no. 127; Fig. 96). Despite the incorporation of Mosaic Style II feather patterns and cabochon bars, the silver base and runic markings on the reverse of this piece suggest it is a variation on known styles produced in a regional workshop.

The Regőly woman also had a formed skull (with a serious, healed gash) and wore plate fibulae of the Chernyakov type. These fibulae were set with a few garnet plates that most probably were acquired by trade - heart-shapes, bean-shapes, and a heart with a squared-off tip. Two identical squared-off hearts on a Hunnic diadem from Culak Tau near the Koktal River in Soviet Kazakhstan, classified in Kovrig’s Group 2bc, suggests these gemstones were traded in the third or fourth decades of the fifth century (Kovrig 1985, 127, 138-44, fig. 8). The cloisonné style of the buckle, the fibulae features and the ceramic vessel in the find support Tejral’s dating of the Regőly burial to the middle of the fifth century, at the later end of his horizon D2 (Tejral 1988, 253-4, map 3). 13

Further evidence of an official connection with Mosaic Style II manufacture is offered by a fibula in triangular form (Cat. no. 128; Pl.22.1). Although commonly referred to as the "Nagy-Mihály" fibula after the place where it was acquired (present-day Michalovce), it was actually found in the village of Rebrin (Rebrény), Czechoslovakia. It clearly either copies or represents a form of imperial fibula.

The fibula, with its broadly notched triangular and small oval plates, may be classified in Mosaic Style II, while the crushed cells at the bottom tips may be related to mushroom cells in the Carpet Style. The running scroll along the outer edge finds a parallel in a plaque in Vienna executed in the fourth class of framework cloisonné (Cat. no. 129). The use of cabochon bars to encircle the
central motif may be associated with a poorly preserved class of luxury cloisonné surviving in such sites as the Pietroasa hoard (Appendix V). The fabrication of the Rebrin fibula from thick gold sheet also may be compared with the Pietroasa fibulae (Cat. nos 175-77). The use of amethysts and a small banded agate find parallels in the North African graves at Thurburbo Majus, which on other grounds may belong to the second Hunnic Period or later (Koenig 1981, 310-12, Fig. 6).

A fourth-century date for the Rebrin fibula has been rather rigorously adhered to in twentieth-century literature (Noll 1974a, 48; Kolnfsk 1984, 100). In fact, in terms of this study of garnet cloisonné, it may be more accurately placed in the middle or second half of the fifth century. This would agree with the chronology suggested for it by Belyaev on the basis of its shape alone in imperial representations (Belyaev 1928a, 69, 108). This, like the fibulae found at Pietroasa, may represent a response to the renewal of Roman ties in the old Roman provinces after the fall of the Huns.

One further example of cloisonné warrants mention here as an example of Mosaic Style II transitional with the Notched Plate Style. A plaque in the collection of the Kunsthistorisches Museum, Vienna, incorporates feather-shaped and semi-circular plates, as well as a grouping of rotated and stepped rhomboids (Cat. no. 129; Pl. 10.1). The larger patterns are those of circles alternating with a lozenge. The poor condition of the object reveals construction of the object in the fourth class of framework cloisonné. The gold bands around the feather shapes that form the wheel designs appear to have been burnished together to give the impression of a single cell wall, a device that may have been more common than is generally suspected. Arrhenius has discussed the relationship of the pattern to floor mosaics (Arrhenius 1985, 61-2), a comparison that is particularly apt with this piece.

The pattern, particularly the linked running circles along one edge, the
relatively large stones, and the drilled stones suggest that this piece came from an artisan acquainted with both antique jewellery and the higher quality style of garnet cloisonné of the second half of the fifth century. The panel may have been riveted to the side of a wooden box.

The thin backing plate and cell walls are typical of high-quality work from the second half of the fifth and early sixth century as represented at Apahida, Romania, and Morskoy Chulek, Russia. The pedimental form, set with an oval cell, is also paralleled by two harness mounts from Morskoy Chulek (Comp. Pl. 12.1). Circular garnets drilled through with holes appear on the Apahida finds, as well as on Ostrogothic Period and Early Byzantine objects such as the earrings from Reggio Emilia and the cross of the Varna treasure, the former with a terminus post quem of AD 491 (Comp. Pl. 10.1; Bierbrauer 1974, pls xxxiii.7, 8, lxiii.3; Dimitrov 1963, fig. 8). These would suggest that Arrhenius' proposed date of before AD 480 for the Vienna plaque, on the basis of its lack of mounting paste and large stones, cannot be upheld (Arrhenius 1985, 62, 70).

The revival of Mosaic Style II cloisonné later in the sixth century, on female jewellery and liturgical objects such as the Varna treasure bracelets, the gospel-book covers presented to Queen Theodolinda by Gregory the Great (ca AD 600; Hubert, Volbach and Porcher 1967, pl. 241), and the cross made by the Eligius school (ca AD 625-50, Vierck 1974), is beyond the bounds of this study. These represent a conscious reworking of fifth-century styles. Within the fifth century itself, there would seem to be little question that objects in Mosaic Style II represent an Early Byzantine tradition of garnet cloisonné.

**Notched Plate Style**

Much has been made of the significance of the humble "stepped" cell or plate.
The production of standard "stepped" rhomboids, by means of templets, is one of the key points in Arrhenius' theory of centralised Byzantine production in Constantinople. The geometric regularity of the patterns created with such stones cannot be doubted, and the seeming standardisation of their sizes returns us to the issues of mass production of both plates and objects. The rhomboid with two to four "steps" or notches on each side of the plate is the classic form, but individual plates may also be notched along a single side, or two opposite sides. The manufacture of these plates, by introducing the sides of the stones to a rotating grinding wheel, was reviewed in Chapter One. With regard to fifth-century cloissoné, the term "stepped rhomboid" should be employed only with reference to the effect created by the cellwork, as the plates themselves are shaped with notches.

The stepped or notched rhomboid motif is so universal as to render a search for its immediate origin elusive. Arrhenius has covered the subject, noting its appearance in floor mosaics, textiles, enamelling, clothing appliqués, and even architecture (Arrhenius 1985, 58). In many of these usages, one half of the motif (termed a "crowstep" in mosaic classifications) is the norm (Ovadiah 1980, 92-3, A 5-6). The linked rhomboids on mosaics excavated in Italy and at Thurburbo Majus, Tunisia present particularly intriguing parallels, as the plaitwork running between each unit creates semi-circular indentations along the sides of the rhomboids, three to five per side, in the manner of notched garnet plates (Comp. Pl. 10.2; Avi-Yonah 1933, 53, 104, 149; Ovadiah and Ovadiah 1987, A15; Ben Abed-Ben Khader 1987, 104-5, pl. xlii). These range in date from the mid-third to the fourth and fifth centuries.

Evidence is lacking to state precisely when and where notched plates in garnet cloissoné developed. The inlays at the base of a pair of earrings from Grave 19 at Armazis-Khevi in Soviet Georgia, cited by Damm as an example of fourth-century
stepped cell work (Fig. 97; Damm 1988, 183), are actually composed of individual thin cabochon bars set adjacent to one another. Damm, however, rightly emphasised the notching along the green glass auxiliary cells matching the lobes of the palmette on the 24.6.1904 Kerch scabbard panel as evidence for stepped cell work by the early fifth century (Cat. no. 42; Damm 1988, 183). Somewhat similar notching is present on the Pietroasa collar inlays (Cat. no. 48). Broadly-notched auxiliary plates, however, are a feature of every style except the simplest Medallion and Rectilinear patterns. Small notches may represent the availability of thinner wheels, but just as likely represent a shift in tastes and styles.

With the exception of the Kerch scabbard fitting, it is difficult to assign any other examples of small, regular notching to a date before the second quarter of the fifth century. One potentially early candidate is one of the buckles from Wolfsheim with four large notched garnet plates around a rhomboid in white inlay with a central garnet (Cat. no. 130; Pl. 10.2). The sophistication of this piece, however, with large, well-shaped and notched stones gives the distinct impression that it can hardly mark the beginning of a series.

Older literature and some recent commentators, adhering to the date and condition of the coin of Valens found in the grave, assume its deposition circa AD 400, again early evidence for notched plates (Behrens 1922/24, 74; Harhoiu 1977, 27; Schulze in Mainz 1980, 189, no. 297; Damm 1988, 158). It is difficult to assess the value of an isolated coin as a guide to dating, particularly in this period. A coin of Valens, the only Arian Christian emperor, may have had special significance to a barbarian owner well after the fourth century. The third-century plaque, however, and the situation of the grave nearby a group of other fourth-century Roman sarcophagi are points in favour of Bernhard's observation that barbarian federates were already present in the area in the first decade of the fifth century (Bernhard 1982, 82-5).
Werner and Böhme preferred deposition dates in the second quarter of the fifth century, the period of Attila, on the basis of the "Hunnic" character of the complex, that is the torque, arm-ring and sword bead (Werner 1956, 89; Böhme 1974b, 167). Warners has recently suggested that ornaments like these formed the personal costume of a warrior with status similar to one of Attila's 'Chosen' princes (Logades in Priscus), drawn from the mixed ethnic groupings of Germanic, Hunnic and Iranian tribes (Warners in Menghin 1987, 183-4). A date in the Attilanic period is consistent with the current advancement of the Untersiebenbrunn horizon (within which this find was typically included, Keller 1967, 118) to approximately the second quarter of the fifth century (Tejral 1988, 241). This, of course, would not disallow production of the buckle a decade or two before its deposition. As Tejral observed, the older features of the find may suggest that this was a member of the first generation of men with eastern connections to reach the West. In comparison with the cloisonné in this catalogue, the presence of a white inlay set with a garnet plate argues for a date no earlier than the end of the first Hunnic Period.

Depositions from the second Hunnic Period at Pécs-Üszög and Szeged-Nagyszéksós also included cloisonné items with notched garnet plates (Cat. nos 131-2; Fig. 98; Pl. 11.1). The surviving curved plate of the Pécs fitting may be compared to the Wolfsheim buckle, this time surrounding a notched rhomboid. It is isolated, however, as the only quality cloisonné fitting amongst crudely-fashioned Hunnic ornaments of sheet gold.

The finds from Szeged present a similar mixture of Hunnic sheet gold fittings with individually mounted cabochons and cloisonné ornaments. The unusual triangular strap ends from Szeged are set with notched plates of the poorest quality (Cat. no. 132; Pl. 11.1, 1a-c). An enlargement of one (Plate 11.1c) shows how one side is set with a stone notched to match the cellwork, while the other is
too small for the setting and is not notched at all. Even allowing for damage to
the garnets by the heat of the fire, it is difficult to see these as anything other
than inexpensive imitations or reused stones.

Contemporary European, Hungarian and Russian scholarship is unanimous on
the placement of both of these depositions between AD 433-454, that is within
the period of Attila’s supremacy in the Carpathian Basin (Bóna 1971, 269;
Zasetskaya 1986, 81; Tomka 1986, 454, 464; Tejral 1988, 265-6, map 2;
Szeged-Nagyskésös: Kiss 1982, 164, AD 420-54; Pécs-Üszög: Kovrig 1985, 143-
4, AD 440-50).16

Three additional fittings from Hunnic Period contexts illustrate the more typical
use to which the notched rhomboid was put. The two most closely related
examples are the longsword fittings from a grave at Voskhod near Engels on the
Volga and from what has been interpreted as a Hunnic sacrifice to the dead
(Totenopfer) at Pannonhalma, Hungary (Cat. nos 138 and 139; Figs 102-3). Both
swords have rows of notched rhomboids across the guards. The Pannonhalma
fitting incorporates a rhomboid centred within a larger field in the fashion of
Mosaic Style I to alter the monotony of the stepped patterning. The notched
rhomboids on the Pannonhalma guard measure 11 x 9.5 millimetres at their
greatest dimensions. Following Werner’s 1:1 reproduction, those on the Voskhod
guard appear almost identical, but this could only be confirmed with access to the
actual piece. The Voskhod guard was accompanied by a scabbard mouthpiece
with slightly smaller notched rhomboids (9 x 9 millimetres) and birds’ heads at
either end, similar to the mouthpiece accompanying the cabochon bar guard in
Berlin (Cat. no. 116).17

Ambroz dated the Voskhod fittings to the period after AD 450 (Ambroz 1981,
15), while Zasetskaya proposed a deposition date for the Voskhod assemblage at
the end of the fifth or beginning of the sixth century, based upon a comparison
between the stamped gold masks found in this and other Hunnic graves (Zasetskaya 1986, 88-90). If the considerable damage to the scabbard mouthpiece occurred before deposition, this might allow a production date for the fittings in the middle to third quarter of the century. Ambroz also suggested that the Voskhod fittings might have been made in the West, a speculation which Tomka disputes on the basis of their general relationship to the cabochon bar guards, which he takes to be Bosphoran products (Tomka 1986, 453-4). But the fact remains that the archaeological distribution and later development of linked notched rhomboid inlaying is clearly in the West.

The long, thin form of the Pannonhalma guard and its central unit cell are features generally associated with western rather than eastern sword fittings. The incorporation of a central cell set off within a bilateral pattern parallels second half of the fifth- to early sixth-century spatha guards from European sites such as Tournai, Flonheim, Rue St. Pierre, Planig, and Nocera Umbra I (reused sword guard) (Menghin 1983, 180-1, no. 1; 214, no. 43; 217, no. 45; 224, no. 56; 260, no. 113).

Nonetheless, the context and various fittings from the Pannonhalma offering are unquestionably Hunnic, with connections throughout the southern Russian steppes, the Caucasus and Eastern Europe. Horse bits and pressed gold bridle fittings from the find, together with the stamped gold sheets of a quiver cover and scabbard sheets with a dotted feather pattern, have been correlated by Tomka with finds predominantly from the middle third of the fifth century (Tomka 1986, 446-58). He also convincingly interprets the assemblage as an example of burial rites involving offerings to the dead, characteristic of steppe nomadic cultures across Inner Asia (Tomka in Menghin, 1987, 159-60). As Pannonia I was only under Hunnic domination during the period of Attila (AD 433-454), he accordingly dates the Pannonhalma deposition to the middle of the fifth century (Tomka 1986,
A wedge-shaped scabbard slide with an animal-head on one end from a tomb on Mt. Mithradates, Kerch (Cat. no. 140; *Fig. 104a*) was decorated with a pattern of equilateral triangles rather than rhomboids, each ground with three notches to a side. The form of this slide, unlike the slide from the 24.6.1904 Tomb at Kerch, is not derived from Chinese prototypes, but rather may reflect influence from Roman types, such as those preserved in eastern Europe (Trousdale 1975, 241).

Zasetskaya proposed a dating range from the late fourth through to the first half of the fifth century for this piece (Zasetskaya 1968, 56). Damm has recently suggested that the bow brooches from the adjacent female burial permit a closer dating of ca AD 400 for both burials (Damm 1988, 195), but *fibulae* of this particular form are known throughout the Hunnic Period from the last decades of the fourth to the middle of the fifth century AD (Kazanski 1984, 7-10). The buckles from the grave find their best parallels in the buckles from Beja and other fittings from Kerch with large oval cabochons (*Figs 73, 104b*). It is tempting to place this scabbard slide at the beginning of the series of linked notched rhomboids, but none of the surviving objects permit a secure dating before the beginning of the second Hunnic Period.

The wide distribution of fittings with linked notched rhomboids raises again the questions of where they might have been produced and whether their apparently standard size permits the speculation of centralised Byzantine production of notched rhomboids. There is some overlap between these fittings and the objects which have been argued to represent Early Byzantine styles and/or production. Notched plates, for example, appear on the cabochon bar sword guards at the Hermitage and from Vol'naya Voda (Cat. nos 117, 119). The Hermitage guard was accompanied by a small fitting with a notched rhomboid and oval cells in a pattern similar to ones found on the buckle from Cluj-Someșeni and two strap ends
in the Dumbarton Oaks collection (Cat. nos 133-5; Figs 99, 101; Pl. 11.2).

The Dumbarton Oaks strap ends, however, point in another direction. The four (empty) S-shaped cells between the attachment rivets are among the garnet shapes discussed in Chapter Six as characteristic of the Carpet Style from the second half of the fifth to early sixth century. The fact that the strap ends, which have lost all their inlays, were made in the fourth class of framework cloisonné suggests they were made by a different hand, possibly at a later date. The Dumbarton Oaks group was probably a set of shoe buckles and fittings, comparable to those found in the Blučina grave. The rectangular gold fitting with the Dumbarton Oaks fittings has parallels at Pécs-Üszög, although the latter are stamped in imitation of beaded wire (Alfoldi 1932, pl. v.1, 4). The drilled rhomboidal plates on the buckles and tabs, set within a field in Mosaic I Style, are closely paralleled in a buckle in the Cologne collection from southern Russia (Cat. no. 136; Fig. 100).

On both the Cologne and the Dumbarton Oaks buckles, the notching on the rhomboids is so regularly spaced as almost to transform these plates into the notched circles which appear on the Carpet Style fittings at Apahida. These, like the other objects discussed in this chapter, reflect a chronology which overlaps with the second half of the fifth century. Whatever the precise starting point for the Notched Plate Style might be, the deposition dates of objects with these plates cluster in the second Hunnic and post-Hunnic Period.

Two other circumstantial factors, in addition to their standardised plates, support the theory of Byzantine production of notched rhomboid ornaments. These are the presence of such plates on the Christian paten from Gourdon and on a sword mouthpiece in the Childeric grave at Tournai, the latter accompanied by a gold crossbow brooch, implying official rank in the Early Byzantine military or civil hierarchy (Cat. nos 141-2). These are most appropriately seen in the context of
the high-status male finds from the second half of the fifth century, reviewed in Chapter Six.

Conclusions

The cloisonné ornaments in Mosaic Style II may be seen to be congruent with both the techniques of fabrication as well as the tastes of the Early Byzantine Empire. Decorated gold sheets, used as backing plates or as foils behind stones are one means of establishing these connections. Likewise many of the ornament types, such as Christian medallions and pendants, reflect clothing styles typical of Byzantine rather than barbarian dress. As we can never know precisely who owned or made these objects they should be considered representative of broader Late Antique and Early Byzantine styles.

Along similar lines, although it cannot be proven who manufactured high-status weaponry fittings, it seems probable that the few members of the barbarian or Hunnic confederacies buried with these unusual weapons acquired them from Roman sources. The Romans were, after all, the arms suppliers to the ancient world. Cloisonné weaponry fittings are relatively rare and are contemporary with entirely different types of weaponry production. The existence of organised industrial-production workshops cannot be proven, but it seems increasingly unlikely that such sophisticated garnet working, combined with weapon production, could have been practised in many areas. This is particularly true of the proportional cabochon bar and notched rhomboid guards.

The parallels and distribution of the Notched Plate as opposed to Cabochon Bar Style weaponry mounts raises a number of questions (Map 6). Both decorated spathae suspended by means of scabbard slides and sword beads; both types were deposited in the second and post-Hunnic Periods. It is very tempting
to see the two groups of swords as contemporary parallels produced in the Western and Eastern empires, but, of course, the present neatly divided distribution pattern could be upset by further archaeological finds.

Alternatively perhaps the two different, but contemporary styles of fittings represent distinctions in military or civil ranks. Assuming the Emperor and top military commanders wore weaponry decorated with the finest and most expensive stones, these presumably were constructed primarily with cabochons. The Cabochon Style fittings come close to these presumed ornaments, assuming weight and stone quality to have been factors in their cost.

Queries regarding where and for whom these fittings were made must remain. The cabochon bar guards in particular seem ill-adapted to warfare and therefore made as ceremonial regalia. Were they made specifically for barbarian troops or do they truly represent fifth-century Roman weaponry, East and West, available to any serving officer, of any nationality, but preserved only outside the empire in barbarian contexts? We cannot know what the differences in styles might have been between a Roman like Aetius and his Hunnic compatriots, but the contrasts may have been less than they seem. If one of these two sources had access to stones, precious metals, and lapidary equipment, it was surely the former.

There are numerous means by which garnet cloisonné decorated swords might have found their way into "barbarian" hands. It is important to recognise the possibility of indirect as well as direct Byzantine connections with various areas, that is to say, some items, particularly status military or ceremonial equipment, might have been given by emperors and commanders, not only directly to faithful allies, but as tribute/subsidy to leaders in the Hunnic confederacy, who then distributed them to individual retainers. The stripping of bodies after battles and seizure of arms from captives also must be considered. Men like the ones buried at Pannonhalma and Pécs-Üszög with just a single high-quality cloisonné item may
never have had any direct dealings with the commanders or officials of Byzantium at all.

Whether wealthy women in Rome, Ravenna and Constantinople wore garnet cloisonné, or whether they preferred, and could afford, the precious cabochons of sapphire and emeralds, cannot be answered until new discoveries come to light. The fact that wealthy women buried outside the Roman Empire wore jewellery made in Byzantine fashions in the second half of the fifth century should be borne in mind during the investigation of the wealthy male ornaments in the following chapter.

NOTES

1. The reader should note that the finds included by Arrhenius as cement and clasped cloisonné products from Constantinople (Arrhenius 1985, distribution map 1 and fig. 102) include only a few objects, such as the cabochon bar sword guards, in the third class of framework cloisonné. The finds from Kerch and Conacți are in band and shared wall cloisonné (her clasped cloisonné), while the finds from Wolfsheim, Blutina, Apahida, Varna, and Tournai, in fact represent the fourth class of framework cloisonné. Likewise, some of her "satellite workshop" products like those from Szeged-Nagyszéksös, the bird mount from Beregovo (Beregyszasz), the Reggio Emilia earrings and the bird brooch from Rome, where the cell walls touch the backing plate, are in the fourth class of framework cloisonné.

2. Harhoiu also rejected this association (Harhoiu 1977, note 221) on the grounds of the clear distinction in the type of cloisonné cell decoration.

3. Arrhenius noted that "the gold foil was missing from the sampled cells in the cloisonné work from Altlussheim and Eich" (Arrhenius 1985, 85). There is only one area on the Altlussheim sword exposed in such a way, beneath crude glass plates on the proper right side of the panel which appear to be later replacements for the original garnet plates (Colour Pl. VIII.2). This might suggest that the guard was damaged and repaired at some time in the West using the pastes characteristic of western workshops. This would accord with Garscha's speculation that the pattern welded iron sword blade might have been a later western addition (Garscha 1960, 317).

4. Another cloisonné guard, from Gagra, Chivera, Soviet Georgia, lacks cabochon bars but had similar floral pattern in three registers across the front. The original publication of this was not available to me (Kazanski 1988).

5. Similar gems are also used in Byzantine necklaces dated to the sixth and seventh centuries (Weitzmann 1979, nos. 284, 286, 300), but there is no reason to suppose that such sumptuous gemstones were not continuously available throughout the fifth century in the Mediterranean Basin.

6. Arrhenius' extension of the term emblemata to all antique mosaic designs and related cloisonné patterns, is somewhat misleading, however, as emblemata in its ancient sense meant a mosaic panel with a figural design, rendered in opus vermiculatum, and intended for insertion within a
geometric border (Dunbabin 1978, 17-23; Henig 1983, 117-18). (It could be argued, however, that the central register of the Kerch panel imitates an *emblemata* inserted between geometric borders.) The comparison of garnet cloisonné to mosaic patterns should be understood in the sense of design and composition, not in terms of the process involved, as Arrhenius attempts to prove. Neither the shaping of relatively rough cubes of stone, nor the assemblage of dozens of these stones within a single unit of the pattern can fairly be compared with the technology of garnet plates and cloisonné inlaying.

7. Circles enclosing diamonds forming a linked quatrefoil pattern form the border of an Egyptian cold cloisonné medallion of the eighteenth century BC found at the Phoenician city Byblos (modern Lebanon; Moscatti 1988, 523). Mycenean cloisonné in lapis lazuli preserves circles enclosing diamonds and scale patterns; scale or feather patterns in cloisonné range from the fifteenth century BC to the fifth century BC in Western Asia on Mycenean finds to Scythian finds in southern Russia (Maxwell-Hyslop 1971, 136, pl. 100; Dalton 1964, 109-10, pl. xvi.116). A bracelet from Olbia, dated to the first century BC, provides a Graeco-Roman Period example of enamelled running circles (Baltimore 1979, no. 283).

8. Two bracelets from the Varna treasure in Bulgaria, for example, incorporate linked circles on their frontal medallions, set with lilac and green glass, and gold backing sheets repoussé with birds inside an octagon (Fig. 94; Dimitrov 1963, figs 2-5). Dimitrov dated the find to the sixth century, which in some respects is more convincing than Brown’s proposed seventh-century date (Brown in Weitzmann 1979, 322-3, no. 299).

9. The Gilatsch cloak clasp was inlaid with a modified stepped-cell pattern, with cross-shaped cells as opposed to notched rhomboids. Some green and red glass (or garnet?) inlays survived along the hinge, but not in the cells. The stepped cells may be compared with those on a necklace element from a northern Persian context in Mainz (Schulze-Dörflamm 1986, 914). Two similar plaques at the Lermontovskaya catacomb at Kislovodsk, of similar scale and decoration, probably served a similar function, but were found in disturbed soils filling the chamber (Runich 1976, 258, fig. 5.8, 9). Awareness of these hinged cloak clasps might also throw new light on the original function of the Wolfsheim plaque.

10. Plate *fibulae* with longer footplates and similar side projections from the European sites of Regöly, Hungary, Simleul-silvaniei, Romania and Hammersdorf, Austria (Mészáros 1970, 92, pls 7, 8, 20; 1972, pls 4, 6) may be dated the second Hunnic Period or later. Horedt and Protase, however, noted some similarities between these Kudenetov fittings and the violin-shaped harness fittings from Apahida II (*Pl. 20.4*), so it is not impossible that this is the true function of these pieces.

11. The fact that many of these stamped sheets decorated the backs of settings where they could not have been seen, does not obviate the similarity and probable connections between the technical execution and employment of these. Silver and gold sheets stamped with feather or scale patterns are also typical of Hunnic workmanship, but even the most intricate of these (Szeged-Nagyskéksós, Fettich 1953, pls 13-14) do not preserve either feather patterns with incised lines (such as those that appear on the Concesti bird mount) or waffle patterns. Classicising sheets with palmette patterns, preserved in Hunnic contexts, should be assumed to be of Early Byzantine origin (Fettich 1953, pl. xii.5).

12. The large silver plate from Concesti finds its closest analogy in the Anastasius charger from the seventh-century AD Anglo-Saxon ship burial at Sutton Hoo (Effenberger et al. 1978, 137).

13. Mészáros' original date of the late fourth to early fifth century for the Regöly grave is certainly too early (Mészáros 1970, 92). Harhoiu followed this date on the basis that a similar vessel was excavated from a Sintana-de-Mureș cemetery at Popuzu, Romania, dateable to the late fourth century.
The appearance of stepped cruciform rhomboids in glass frit from Mesopotamian and Indus River Valley sites from the early third millennium BC may be added to the list as testimony to its antiquity and functionality within inlaid decoration (Parrot 1956, 155, fig. 93). Bean shapes, feather shapes and a wing-shape approximating to the S-shapes found in garnet cloisonné were also among the frit inlays from the Temple of Ishtar at Mari in Syria (early second millennium BC) excavated by Parrot. Parrot recorded his surprise at seeing identical shapes on Migration Period objects in North Africa.

15. Arrhenius misidentified the bars on these earrings as a single grooved plate (Arrhenius 1985, 48, fig. 9).

16. Harhoiu followed an early fifth-century date for the Szeged find, incorrectly stating that notched plates (or "wavy cloisonné") did not occur in the Szeged cloisonné (Harhoiu 1977, note 164). A later date for this find in fact supports his supposition that the deposition date of the Pietroasa treasure must be around the middle of the fifth century. An openwork electrum cup with missing inlays from the Szeged find (Fettich 1953, 121, pl. xvii.1; Kiss 1982, 176-84) provides an analogy to the gold cups in à jour cloisonné from the Pietroasa treasure (Appendix V). The Szeged cup bears a Greek inscription giving the weight of the vessel in the manner of Late Antique and Early Byzantine silver plate, and it must be presumed that it was either produced under imperial control or at some point passed through an official weighing agency.

17. Werner and, following him, Arrhenius misidentify the piece as a single mouthpiece rather than a guard and mouthpiece. Arrhenius’ argument that the mouthpiece is chronologically later than the guard on the basis of the two sizes of plates used is neither convincing nor particularly logical. The pieces would seem rather to illustrate that both sizes were contemporaneous with one another.

18. A guard similar in cross-section and size to the Pannonhalma piece, composed of bronze with rhomboidal inlays in clear glass set in a Unit Cell Style pattern, was recently excavated in Verino Hill near Tsebeld, Soviet Abkhazia (Voronov and Shenkao 1982, 158, fig. 23.4). The authors suggest an unrefined date of the second half of the sixth to the first half of the seventh century for the burial. The ring-and-dot foils beneath the rhomboidal glass inlays on the guard also appear on late fifth- and early sixth-century cloisonné in Ostrogothic and Merovingian contexts (Arrhenius 1985, 120).
CHAPTER SIX

EARLY BYZANTINE CLOISONNÉ IN HIGH-STATUS MALE GRAVES

Superb workmanship, high-status contexts and a new range of cell-shapes characterise the ornaments discussed in this chapter. They are rendered in the most complex of all the styles of garnet cloisonné, the Carpet Style, which represents in some respects a culmination of many of the stylistic tendencies analysed in the previous chapters. Carpet Style Phase II ornaments deposited in the last quarter of the fifth to early sixth centuries, primarily in Ostrogothic contexts, are beyond the brief of this thesis. Those ornaments included in high-status burials from the second half of the fifth century, however, throw light upon the origins and development of high-quality garnet cloisonné throughout the century. The grave goods from Tournai, Belgium; Blučina, Czechoslovakia; Pouan, France, and Apahida, Romania, form the basis of the following discussion.

Three features define the high-quality garnet cloisonné ornaments in these deposits in the second half of the fifth century. The first is the uniformity of their designs, the second is the quantity of related material and the third is their susceptibility to dating. The inclusion of material in the Carpet Style in the grave at Tournai of a known historical figure, the Frankish leader Childeric (d. 481/482), provides the single secure Zeitpunkt of fourth- and fifth-century garnet cloisonné studies.

Two further factors play an important role in an analysis of this material. One is the fact that two of the assemblages containing cloisonné in this style (Tournai and Apahida I) were male graves which included not only Roman-style signet and seal rings, but also gold crossbow fibulae, the mark of high civil and military rank in the Roman and Early Byzantine Empires. The second is that, until the end of the
fifth century in Europe, cloisonné in the styles discussed below is largely confined to high-status male weaponry and horse harness fittings. If these two elements are presumed to be directly related, then these grave groups provide evidence of not only the styles and forms of Late Antique/Early Byzantine ceremonial fittings, but also the nature of their production.

The volume of ornaments and their relatively uniform character strongly suggests that either a single workshop or closely related workshops must have been responsible for their production. If this was the case, and these cloisonné items are interpreted as imperial gifts or regalia, possibly designators of rank, then the assumption of some level of centralised or coordinated production may be justified. The presence of gold and silver crossbow brooches in the depositions and the extraordinary quality of some of the material suggested to both early researchers and recent investigators that this material originated in Early Byzantine workshops (Introduction). Arrhenius has advanced the hypothesis that a central workshop, operating in Constantinople, supplied satellite workshops in Europe with precut stones to assemble these types of ornaments (Arrhenius 1985, Distribution Map I, 120-6).

The concept of some degree of Early Byzantine influence is an attractive one, particularly in light of the official insignia found in the graves. As with the material reviewed in Chapter Five, however, any substantive proof for the theory is lacking. Like the ornaments in Mosaic Style II and the Notched Plate Style, the Carpet Style objects analysed here have parallels and successors in Early Byzantine Period cloisonné in Merovingian Europe, Ostrogothic Italy and the Mediterranean Basin. The material also has contemporary imitations of lesser quality. Both of these facts support the hypothesis that a single popular style, disseminated from urban centres, possibly with official or semi-official status, was being copied.

The theory of centralised production in Constantinople, however, is
complicated by the variations between the ornaments in the five major complexes in this group. It is not necessarily contradicted, but the manufacturing situation may have been more complex than can be reconstructed from the archaeological evidence. The fundamental parallels between these finds, stressed in all of the literature on the subject, is accepted as the basis of this discussion. A detailed analysis of the cell-shapes and combinations, however, reveals some further connections that have not yet been highlighted. Furthermore, the variations between these complexes have implications for both dating and production of these finds. The following analysis of the types of objects and cloisonné within each find and between the finds often raises more questions than it answers. Nonetheless, these questions, puzzling to us now, may point the way for further research.

Before turning to these considerations a brief outline of the new forms of garnet plates and construction that characterise objects in the Carpet Style is useful.

**The Carpet Style: Technical Considerations**

Many of the ornaments in this category are constructed in the fourth class of framework cloisonné defined in Chapter Five. In this class, a framework of cell walls is spot soldered to the backing plate, often with a central cell functioning as an anchor from which the cell walls radiate. This particular method of construction is often visible on the reverse of the objects, particularly as some of the backing plates tend to be made of relatively thin sheets of gold (*Pls 20.1, 20.3*).

The presence of a layer of wax on some samples in this class led Arrhenius to argue that these objects were assembled from behind, with a soft or liquid
crystalline paste poured onto the stones and their backing foils, which were coated with wax to prevent the cement from seeping around the cells. Jewellers consulted by this author have been dubious regarding the practicality of assembling objects front to back, if there was any soldering to be done. On objects with soldered central cells or rows of exterior cell walls, the presence of cement and wax prior to the soldering of the structural cells would be a hindrance, as dirt and wax prevent solder from adhering properly. The incorporation of a wax layer, acting as a resist to keep the cement from spreading between the foil and garnet and fogging it, would seem to be equally efficient regardless of which way the object was assembled. There can be no question that objects in the first and second classes of framework cloisonné were assembled back to front (or centre to exterior), beginning with a soft cement base into which the stones were set. This study provisionally assumes that these objects were assembled back to front in the manner of the rest of the cloisonné covered in this study.

Arrhenius suggested, on the basis of her analyses of the mounting pastes used on some of the Tournai and Apahida finds, that the gypsum found in them was diagnostic of pastes produced in the hypothetical central Constantinopolitan workshop. Where these paste analyses parallel the stylistic groupings, this tends to suggest that some classes of ceremonial objects were produced using a specific technology, if not necessarily in a single location. In the case of the Apahida material, the paste analyses differentiate between some objects in the Apahida I and II finds, but the interpretation of these distinctions with regard to the relative chronology of the two graves is not clear-cut. The implications of these paste analyses are examined further below, but many more samples will be needed before we can speak with assuredness for the paste compositions and groupings of fifth-century material (as opposed to the sixth-century Merovingian material, which presents a more homogeneous picture with a large number of
Comparative charts have been published of the plate shapes common to the finds from Tournai and Apahida (Horedt and Protase 1972, 213, Table i; Arrhenius 1985, 113, Table xii). Following the terminology employed in this study, two or more of the following types of plate shapes are present on all of the major finds in this chapter:

1) S-shaped plates;
2) Omega-shaped plates;
3) Quatrefoil-shaped plates;
4) Trefoil-shaped plates;
5) Wing-shaped plates;
6) Hexagonal plates;
7) Mushroom-shaped plates;
8) Keyhole-shaped plates;
9) Palmette-shaped plates;
10) Notched plates; and
11) Free-form plates (Fig. 10).

Cabochon bars appear on some of the cloisonné ornaments in this style, often engraved with parallel grooves as on the sword guards from Vol’naya Voda and Dyurso (Cat. nos 117-18). These bars, however, are consistently narrower than the bars used on sword guards, being comparable in size to those preserved on ear-rings from Armazis-Khevi, Soviet Georgia (Fig. 97; Apakidze et al. 1958, 124, pl. xii.4). Unlike the sword guard bars, these are never pieced together from two sections of stone. In contrast flat plates in the Carpet Style frequently are pieced to simulate a larger stone. There is, in addition, extensive use of small pin-head size cabochon garnets, often matched to S-shaped or rectilinear plates and cabochon bars. Scored foils are the norm under stones to increase their reflective quality.

Traces of Mosaic Style I designs still exist, but with compositions focussed upon a single trefoil-shaped or hexagonal plate as the central focus. S-shaped and omega-cells, arranged in long interlocking rows, often bilaterally divided, replace the simple laddered rows of rectangular and square cells characteristic of Hunnic
Period objects in the second phase of the Rectilinear Style. The tendency to cover broad surfaces of an object with a repeating pattern of interlocking shapes justifies the use of the term *Carpet Style* for the cloisonné in this chapter. Although such an effect was theoretically possible with notched rhomboids, these apparently were restricted to single rows and border zones.

Few surviving pieces from the fourth and first half of the fifth centuries can compare in technical quality to the best objects in this style. The most intricate designs are executed with great skill. The stones are well-ground and polished and well-fitted to their cells. The sizes of the stones on the Apahida objects range from two or three millimetres at the least, up to thirteen and fourteen millimetres at the greatest dimensions. Clearly the jewellers had access to a quantity of stones, many larger than those identified on objects in previous chapters. Many of these stones, such as those set on the Apahida and Blucina objects, are violet in colour and may be judged to be predominantly almandine or almandine/pyrope in composition.\(^1\)

Despite the technical mastery exhibited in this style, much of it, particularly in the large find from Apahida II, is constructed with a minimum of gold. Only the buckles and sword fittings preserved in this style are solid and sturdy. Many pieces, such as lightweight horse ornaments, were only likely to have been preserved in special circumstances, such as within the wooden box which held such items at Apahida II. These truly represented glitter without substance. In the subsequent phase of the Carpet Style, the majority of objects are rendered in the second class of framework cloisonné, with the fragile structure of cells and plates secured in paste in a silver, bronze or iron casing.

New shapes, many reproduced hundreds of times and similar pastes on objects at widely dispersed sites are factors in favour of a thriving workshop(s), well-supplied and patronised, producing specific ranges of ceremonial ornaments for
selective distribution. With these thoughts in mind, we may turn to the grave groups themselves.

**Late Antique Cloisonné at Tournai**

The burial at Tournai included a seal ring inscribed CHILDERICI REGIS (belonging to King Childeric) and has, since its discovery, been presumed to have been that of the Frankish leader, whose death date of 481/2 is calculated from the accession date of his son and successor, Clovis (recorded by Gregory, Bishop of Tours (d. AD 594); Brehaut 1969, 50, 297). Unfortunately, the Childeric ring did not survive to be submitted to a modern analysis, and some other historical assumptions based upon personal rings have proven incorrect (most notably the assignment of the early seventh-century grave at St. Denis to the mid-sixth century Queen Arnegunde). In this case, however, the association seems probable. The historical date is broadly supported by the *terminus post quem* of the gold coins. Modern excavations in the area have revealed a number of sacrificial horse burials (Brulet, Coulon, Ghenne-Dubois and Vilvorder 1988), suggesting that this was a pagan leader of wealth and power, interred with ritualised ceremony.

The Tournai burial remains the only deposit in the fourth and fifth centuries that offers a concrete correlation between historical and archaeological evidence. The Childeric date is the underpinning of current archaeological chronologies concerning not only the development of garnet cloisonné, but also material complexes in general, in the second half of the fifth and sixth centuries (Böhner 1958; Menghin 1983). Without denying its extreme usefulness, it should be borne in mind that the Childeric date may just as well provide a *terminus post quem* as a *terminus ante quem* for related objects.
The analysis in the following two sections defines the three styles of cloisonné represented at Tournai. It is not yet perfectly clear whether these styles represent successive chronological phases or contemporary workshops producing in different styles. It is proposed here that two chronological phases of production are represented, from two different traditions, but this must remain provisional, and other interpretations are not disallowed.

The remounted scabbard mouthpiece from the Childeric grave with a notched rhomboid pattern forms a convenient starting point for this discussion (Cat. no. 141; Pl. 12.1, bottom left). The mouthpiece from Tournai is decorated with a pattern of linked notched rhomboids similar to those on the sword fittings from Pannonhalma, Voskhod, and Mt. Mithradates, Kerch (Cat. nos 138-40). The pattern is constructed with a centre quatrefoil, presumably originally filled with white or green inlay. This may be compared to the smaller quatrefoils on the buckle from Blučina, as well as to the subsequent series of sixth-century European mouthpieces and/or guards from Grave 5 at Flonheim, Grave 1 at Rue-Saint-Pierre and Grave 1, Planig (Zeitgruppe B; Menghin 1983, 214-15, no. 43, 217, no. 45, 224, no. 56). As on the Voskhod guard and mouthpiece, similar plates of two sizes are combined. The six linked rhomboids on the Tournai mouthpiece are actually smaller than the notched auxiliary triangles and are accordingly centred within the frame.

More striking are the similarities between the Gourdon paten and the Tournai mouthpiece, noted by Dumas (Cat. no. 142; Pl. 12.2; Dumas 1982, 2a). Both the hue of the stones and style of construction give the impression that these two objects are, at the very least, following closely in the same tradition, if they are not actually products from the same workshop. The scabbard mouthpiece and paten certainly stand closer together than the Tournai mouthpiece does with the Apahida cellwork, with which the entire assemblage is more commonly compared.
The border of small flat circles in band settings on both pieces (similar settings also appear on one of the lost buckles from Tournai, Pl. 13.1), for example, contrast with the borders of pinpoint cabochons on the Apahida material. Such similarity between a Christian liturgical plate and a weaponry fitting must suggest that their creators would have seen themselves as working in a common Early Byzantine style. That production in this particular style was restricted to certain jewellers or workshops cannot be taken for granted, but may not be an unreasonable supposition.

Arrhenius speculated, on the basis of the two different sizes of the "steps" on the garnet plates in the cross and on the border of the paten, that the cross was an addition to the paten (Arrhenius 1985, 70). This may be true, but the argument cannot be sustained on the basis of the "templet" size. There is ample evidence to suggest that the sizes of notches of both the cross and the rhomboids were contemporary within the Notched Plate Style. The lower arm of the cross is divided by tightly crimped cell walls matched to small notches such as those that appear on objects from such finds at Szeged-Nagyskékzós, Kerch Alekseev, Cluj-Someșeni, Blučina and Apahida (Pls 11.1, 18-20; Figs 87, 101).

Although no parallels have survived for the paten and the tiny "chalice" that accompanied it, the forms and decorative details of both objects are anchored in a classical tradition. The paten itself is a type well-represented in Late Antique silver; its foot is constructed of two rows of linked openwork kidney-shapes, comparable to other examples of Late Antique and Early Byzantine jewellery (Arrhenius 1969, 106). The "chalice" bears a vine scroll in beaded wire linking *hedera* and acanthus-shaped inlays between two rows of wire that must have been strung with pearls or beads. These inlays, like those in the bottom of the paten, are set with malachite.

The employment of turquoise rather than green glass on both pieces from
Gourdon provides some interesting points of comparison. Lobed *hedera* in turquoise appear on the Early Byzantine cross and belt fittings from Varna, Bulgaria, which may be dated to the late fifth or early sixth century (*Comp. Pl. 10; Varna 1965, 143; Vendikov 1965, np*). The gold backing sheets of these have repoussé palmettes within alternating circles and rhomboids (Dimitrov 1963, fig. 8). An unpublished fitting from Turkey, set with large garnets and bordered with finely beaded wire, is also set with a turquoise inlay in a palmette shape (Cat. no. 145; *Colour Pl. X.1*). These parallels tend to suggest an eastern orientation for the production of the Gourdon paten, but it should be borne in mind that there may have been western centres such as Ravenna or Carthage capable of such production.

The coin dates of the Toumai and Gourdon finds overlap, with the latest coins at the first site of Leo (AD 457-74) and the earliest coins at the second site from the same emperor. The coinage at both sites was predominantly from Eastern Roman mints (Dumas 1982, 5). Given the similarity between the cloisonné on the paten and scabbard mouthpiece, it is reasonable to assume that the paten was manufactured within the range of the Childeric date. Indeed, if the stylistic comparisons noted above are relied upon, it may well be that this, like the Tournai scabbard mouthpiece, belongs close to the middle of the century.

The Tournai mouthpiece has been variously reconstructed as part of the *spatha* (longsword) or *seax* (short sword) fittings (the numerous variations are reviewed in Kazanski and Perin 1988, figs 4, 6). Dumas suggests that the mouthpiece is a *seax* fitting reused on a *spatha* (Dumas 1982, 1a-2a). Ambroz likewise recognised its probable original employment as a *seax* fitting, but proposed that it belonged with the surviving Tournai *seax* fittings in Carpet Style discussed below (Cat. no. 144; Ambroz 1986, 33-4, fig.3). Despite the superficial similarity between the back of this mount and the *spatha* mouthpiece at Pouan,
the asymmetric curvature of the Tournai fittings suggests that it decorated a seax. Ambroz’s reconstruction is supported by Arrhenius’ analyses.

Arrhenius’ analyses of the surviving Tournai ornaments revealed that the seax fittings were mounted with a gypsum-based cement without wax, similar to the cement used on the few Apahida II fittings she was able to test. A gypsum cement without wax was also used on the notched rhomboid mouthpiece; a gypsum cement with wax was used on the spatha pommel. The lower and upper guards of the spatha, in contrast, were mounted with calcite pastes (Arrhenius 1985, 84-5, 101-2, 110, 203, figs 106, 116). These paste analyses would seem to confirm the stylistic distinctions between the notched rhomboid mouthpiece and the spatha fittings.

It could be assumed, therefore, that the seax fittings, assembled with pastes identical to those on the mouthpiece, may be either a) higher-quality, more expensive and possibly higher ranking production or b) a later phase of production from the same or related workshops. Provisionally the latter would seem to be the case, on the basis of the congruence of the notched rhomboid mouthpiece with fittings deposited in the Hunnic Period. Assuming Ambroz’s interpretation to be correct, Childeric’s old seax may have been refitted with scabbard fittings in a new style. This situation may be compared to the burials at Pouan and Blučina, where the seaxes are rendered in different and if not chronologically, then technologically, earlier styles. The relationship between the seax and spatha fittings is the subject of the following discussion.

**Early Byzantine Cloisonné at Tournai**

Pastes composed of gypsum with or without wax constituted a very small number of objects in Arrhenius’ test groups. Two of these were from Apahida II
(the rosette mounts and the vulture fittings); the others were from a belt buckle probably from the Ostrogothic period in Italy (late fifth to early sixth century AD), a seventh-century mount from Gilton, England and belt fittings from Syria. Such a small and heterogeneous grouping makes it difficult to assert too much about the use of gypsum pastes.

Nonetheless its restricted use, allowing for the relatively few numbers of objects tested, may be significant. Arrhenius proposed that the gypsum-based fittings at Tournai were imported from Constantinople. It must be queried, however, whether the gypsum required for these pastes was so rare as to presuppose a Constantinopolitan workshop. In geological terms gypsum is an exceedingly common mineral; what would have been significant is the knowledge of how to identify and employ gypsum to create a cement that hardens properly. If Egypt or Syria were the primary sources for the impure gypsum used on these fittings, as Arrhenius suggests (Arrhenius 1985, 84-5, 101), then workshops in Alexandria or, more probably, Antioch, a famous source of other Late Antique status items such as silver, also must be considered.

If gypsum pastes are accepted as diagnostic of a specific tradition or workshop, then the concordance between the Tournai seax pastes and some Apahida II pastes reinforces the stylistic parallels between these pieces. The seax fittings are the most complex and finely-made of the Tournai fittings, and the only ornaments from the assemblage to be mounted with rows of pinhead cabochons like the Apahida fittings (Cat. no. 144; Pls 12, 13.2, 17, 18). The lost pommel, a single buckle tongue, one belt loop and tongue, two round studs and one violin-shaped fitting, recorded by Chiflet, should also be considered in this group (Pl. 13.1, 1a). The layout of the cell-shapes on the Tournai seax fittings - rows of S-shaped plates flanking notched rectangular plates - may be compared to the two rows of S-shaped stones on either side of omega-cells on the Apahida purse lid.

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The star-shaped cells at the outside curves of the L-shaped Tournai seax fittings, presumably filled with white inlay, have parallels in some of the lost Tournai ornaments as well as on fittings at Apahida (Horedt and Protase 1972, pls 1, 2; 36.1-12).

Indeed some of the most characteristic patterns of the Apahida ornamentation, such as encircling rows of omega cells and S-shaped cells on buckle tongues and buckle plate sides, do not appear within the Tournai cloisonné. With the exception of the single large garnet on the underside of the seax chape and a few plates on the animal-headed pommel, omega-shaped plates were not utilised and were not recorded by Chiflet. Only one carved cabochon bar and one cabochon buckle tongue appear at Tournai. In addition to these distinctions, the fact that the surviving Tournai garnets are consistently deep red in colour as opposed to the violet stones used at Apahida must be noted.

Again it is difficult to know exactly what interpretation to place upon these divergences. A chronological distinction is the easiest, but not necessarily the most accurate. The presence of the notched rhomboid plates (which do not appear at Apahida) and the general absence at Tournai of omega-shaped plates, which become one of the most characteristic features of later fifth- and early sixth-century Merovingian and Ostrogothic cloisonné, tend to support the dating of some of the Tournai material (excluding the seax fittings) as earlier than the Apahida II assemblage. Nonetheless the possibility that such differences could represent 1) the cost of the fittings, 2) rank differentiations (if these are military decorations) or 3) distinctions between production in two different areas (the Eastern and Western Empires, for example) cannot be ruled out.

The picture is further complicated by an analysis of the upper and lower hilt guards of the Childeric spatha (Cat. no. 143; Pl. 12.1, left). These are both composed of a repetitive series of plates in wing-shapes with two right-angled
sides matched by a sloping curve on the third side and three notches on the fourth. Assembled in groups of two, with their right-angled and their notched sides matched, their centre profile forms waved curves down the centres of the hilts. There is no surviving parallel for this pattern, although similar shapes, somewhat elongated, also decorate the animal-headed pommel, at present mounted on the spatha. (Pl. 12.1).

Wing-shapes, as Arrhenius appropriately termed these plates, are sparsely represented in the archaeological record. Such a shape was clearly capable of being produced in the Notched Plate Style or in the range of cloisonné preserved at Apahida, but was not employed as such there. Arguably the wing-shape was derived from floral plates such as those on the Pietroasa collar, squared-off with 90-degree angles to allow incorporation into a geometric rather than curvilinear pattern. A bronze horse bit from Hungary is mounted with two similar plates, adapted to a floral pattern (Fettich 1953, pl. xxxix.1, 2; Arrhenius 1985, 204, fig. 103). The bit was constructed in the second class of framework cloisonné, with wax as a main paste constituent, and cell shapes typical of the Carpet Style.

Two very large garnet plates (28 x 26 mm) in related shapes were recovered from a cremation burial in a mound at Husby Långhundra in Sweden, together with fragments of what appears to have been the rim of an ornament, possibly a collar or cups similar to those from Pietroasa. These are comparable in size to the very large garnet plates from the middle to second half of the fifth century from such sites as Pietroasa and Sarret (Appendix V). It has been suggested that these represented an antique object included in this Vendel period deposition from the sixth century (Arrhenius 1985, 70; Menghin 1987, 461), but it is entirely possible that this Early Byzantine style of cloisonné continued into the following century. With the exception of these examples, however, shapes of this nature are rare until the second half of the sixth and seventh century, when smaller variants are
incorporated into Frankish pommels and Lombardic disc brooches (Arrhenius 1985, figs 161, 192, passim).

Arrhenius proposed that the spatha guards were made by Childeric’s "own goldsmith...[who] obtained for this purpose stones cut from b-templets forming a pattern with its own ingenuity but closely related to the patterns on the other objects" (Arrhenius 1985, 102). Following the Constantinopolitan argument, it could be assumed that the animal-headed pommel, with cellwork comparable to both the spatha guards and seax fittings, and with a gypsum-based paste, was also a central workshop product. Dumas, however, advances the present reconstruction with caution, noting that the animal-headed pommel fragment is not functionally adapted to the upper guard and that the lower guard may have been mounted against an iron backing. Here, in addition to the insurmountable problems of reconstructing a largely lost grave group, the manufacturing situation with regard to pastes and plates is so complex as to impose extreme caution on any interpretation. If a central workshop supplied precut stones, as Arrhenius suggests, surely the best paste ingredients could have also been supplied for the spatha, but this was not the case. The two spatha guards were constructed with calcite pastes (Arrhenius 1985, 102, 201).

A similar hardened calcite paste without wax, as on the upper hilt guard from Tournai, was found on a scabbard mouthpiece from Nocera Umbra, Italy; hardened calcite with a little quartz was found only on the lower Tournai spatha guard and the ornaments from Bône, Algeria (Arrhenius 1985, 201). The Nocera Umbra mouthpiece is stylistically comparable to the Tournai fittings (though mounted on a sixth-century sword) while the Bône fittings are rendered in a Mosaic Style I pattern.

Perhaps the spatha guards represent another facet of "central workshop" production transitional between the Notched Plate and Carpet Style. The Oros
pommel, another object in Carpet Style, was assembled with calcite pastes containing only a little more quartz than the Tournai lower guard (Cat. no. 148; Arrhenius 1985, 203). Perhaps not all of these differences are as significant as they seem. Jewellers consulted by this author suggested that workshops may well have used any combination of ingredients that worked and were available and that this might have fluctuated considerably depending upon supplies. There may be no need to assume that identical ingredients and plate shapes, even within a single atelier, were consistent within a period of a year or two, much less a decade.

To summarise, the surviving cloisonné fittings at Tournai may be divided into three categories. The first, and possibly the oldest, is the scabbard mouthpiece, from a *seax*, probably readapted to another sword. Its design in Notched Plate Style is related stylistically to some weaponry fittings deposited in the second Hunnic Period and its immediate aftermath, with its closest parallel in the settings of the Gourdon paten. The L-shaped scabbard fittings, also from a *seax*, together with the lost fitting executed in the Carpet Style (*Pl. 13.1a*), are stylistically and technically related to some of the Apahida material, confirming that production in this style began before AD 480.

The pommel now reconstructed with the *spatha* is also comparable with these *seax* fittings in terms of pastes and plate shapes. The *spatha* guards have different pastes, but plate shapes similar to those on the pommel. Although the latter have little in common with the Apahida, Blučina and Pouan fittings, it is too early to state with certainty that these were made in northern Europe and not in the hypothetical central workshop.

The points of comparison between the Apahida II and Tournai burials - both stylistically and in terms of their contents - have tended to overshadow the differences between these two finds, which are considerable. Having established
the earliest and latest, or if preferred, the range of styles represented at Tournai, it is useful to examine the smaller finds from Blučina and Pouan, as both of these throw additional light on the larger finds from Apahida.

Blučina

The cloisonné from the graves at Blučina and Pouan share features with the Tournai and Apahida finds, and yet the circumstances of the isolated burials, as Menghin has pointed out, appear more characteristic of the Attila phase of the Hunnic Period. Blučina, in addition, retains more elements of a specifically Hunnic character than the other finds (Menghin 1983, 27). The Blučina grave goods included a bone-stiffened reflex bow, an assortment of three-sided arrows, a whip and the stamped silver fittings and rims from a hard saddle (Tihelka 1963; Menghin 1987, 374-5).

As in the Pouan and Tournai burials, the Blučina weapons consisted of a seax and spatha with cloisonné in two distinct styles. The small seax pommel with the bean-shaped cell finds parallels in Rectilinear and Mosaic Style combinations known in the Hunnic Period (Cat. no. 100; Pl. 14.1). The seax chape with its large notched rectangles and oval cabochons may be compared with similar plates in Mosaic Style I and the Cabochon Bar Style (Cat. no. 120; Pl. 14.1).

The gold-sheathed hilt, the suspension and chape fittings of the Blučina spatha are features with a western distribution along the Upper Rhine (Menghin 1983, 127-8, nos 4, 5, 7-10, Maps 9, 13, 18 and 73; Kazanski 1982, 26). Like the majority of these, the Blučina spatha fittings are decorated only with very small, individually-set rectangular and circular garnet plates. This spatha at present stands as one of the farthest eastern outliers of swords with these features. The other two eastern examples of these types of scabbard fittings, the swords from
Komárom, Hungary and Ermihalyfalva, Romania, like the Rhenish examples, belong in Menghin’s *Zeitgruppe* A (Menghin 1983, 130-2; for the findspot of the former sword, now in the collection of The British Museum, see Kidd 1990a).

In addition to a pair of swords, the man at Blučina was buried with a belt buckle with a rectangular loop and plate and a set of shoe buckles, strap ends and fittings (Cat. nos 137, 146; *Pis* 14.2, 14.3). The cloisonné of these fittings contrasts with the *seax* cloisonné from the grave and represents a third style of inlaying. Not only are many of the cell shapes completely different (S-shaped cells, trefoil cells and quatrefoils), but the stones themselves are superbly ground and polished violet almandines, underlain by scored foils.

The shoe buckle plates are comparable to two of the lost plates from Tournai illustrated by Chiflet (*Pl. 13.1* ). The white inlay of the Blučina loops would be consistent with the loss/disintegration of those elements of the Tournai buckles. These are both related to the Apahida I buckle in terms of scale and construction (Cat. no. 150; *Pl. 16.3*). Yet another related buckle with a solid gold loop and missing inlays, with a Hungarian provenance, is in the collection of the Magyar Nemzeti Múzeum in Budapest (Alfoldi 1932, 88, pl. xxxiv.14; no. 107/1893, 4). The motif of a white quatrefoil set within a circle on the Blučina buckles is employed on the female belt buckle from Regöly, Hungary, in Mosaic Style II, datable at the end of the second Hunnic Period. A small quatrefoil in white inlay, set with a circle of gold wire, also decorates the Komárom chape fitting (Kidd 1990a, pl. 9).

The pure gold shoe buckles from the Blučina grave contrast with the rectangular buckle of iron with gold cellwork and a stepped rhomboid pattern. An approximate time frame for this type of buckle is established by a related (but not identical) belt plate from Kiev found in association with animal-headed bracelets similar to those from Dunapataj-Bödpuszta, datable in the second Hunnic Period.
(Chapter Four) and a buckle from Grave 181 at the gravefield at Szentes Berekhát, Hungary. The latter, a rather closer parallel, is also of iron with gold cellwork. This was possibly deposited after the Gepid consolidation of political power in the Carpathian Basin after AD 472 (Csallány 1961, 275, 333, lxxiv.4). Pin-point cabochons in the white quatrefoils at Blučina are a feature of the Carpet Style.

Recent scholarship proposes a deposition date for the Blučina burial in the third quarter of the fifth century AD (Menghin 1987, 374; Tejral 1988, 295, horizon D3). Even without the benefit of the Childeric dates, a date around AD 475 probably represents the outer limit for the burial of a thirty to forty-year old man (fixed by a skeletal analysis), assuming he had been old enough (fifteen to twenty years) to acquire status weaponry with cloisonné parallels in the fourth and fifth decades of the century. The siting of the isolated burial near a river in the manner of other high-status Hunnic Period burials (Bolshoi Kamenets, Attlussheim) and the inclusion of a reflex bow, a whip, symbolic arrowheads and hard saddle fittings (such as at Pécs-Úszög), are features that recommend a date closer to the second Hunnic Period. While not impossible, it seems unlikely that such a burial would have taken place much more than twenty years after the disintegration of the Hunnic confederacies ca AD 454.

The lower limit for the gold-handled-sword horizon, as represented by the Blučina spatha, may be placed around AD 460 (Müller 1976, 95-102, 150). This would allow for the deposition at Blučina within a decade after the death of Attila in AD 453. Therefore, hypothetically, the style of cloisonné represented on the shoe ornaments in the grave could have been produced in the fifth or sixth decade of the century. However approximate, this is useful in suggesting the earliest production dates for the S-shaped garnet plates which also appear on the ornaments at Tournai and Apahida. The overlap of S-shaped and notched rhomboid plates has already been noted on the shoe buckles in the Dumbarton
Oaks collection (Cat. no. 135; Pl. 11.2).

The Bluchiina grave goods demonstrate that the man buried here and the individual at Tournai acquired very similar ornaments, probably within the period around AD 450-465. The parallels for the cloisonné on the Bluchiina shoe and belt buckles lie in the middle Danube region in late Hunnic and early Gepid Period assemblages. The Bluchiina shoe buckles are much more finely executed than these, however, being constructed of solid gold with good quality almandines and finishing details such as beaded wire around the border. Do these represent two levels of quality in regional production? Or are objects such as the Regöly, Bluchiina and Szentes buckles regional imitations or variations of imported Byzantine types?

The Bluchiina man, on the basis of his weaponry and attire, was of lesser status than the men at Tournai and Apahida I. His arm-ring with thickened terminals signifies some level of status, rank or military award, possibly within the structure of the Early Byzantine militia (Appendix IV). His silver fibula, a rare form of Bügelknopffibel, finds its closest parallels in some forms preserved in the Eastern Empire and in Scandinavia (Schulze-Dörrlamm 1986a, 628-9, 660-1). The acquisition of similar, if not identical, shoe buckles by men at two sites as distant from one another as Bluchiina and Tournai is difficult to explain without the intermediary of the Roman militia. As suggested above, however, a local, rather than Byzantine source, is entirely possible for the cloisonné on the Bluchiina spatha and belt buckle.

Pouan

While the Bluchiina goods stand in relation to both Tournai and Apahida, the stylistic parallels at Pouan reflect a greater awareness of the Apahida assemblage. In addition to the pommel and scabbard fittings of the seax discussed in Chapter
Four, the Pouan grave contained a cloisonné-decorated *spatha* and two buckles set with hexagonal plates (Cat. no. 147; *Pis 6.6, 15.1*).

The scabbard mouthpiece from the Pouan *spatha* combines features known from western and eastern European sites. The scale of the cabochon bars, carved with parallel grooves, as well as the alternation of rectangular plates and carved bars, are related to the settings of the Apahida belt buckles and sword fittings (Cat. nos 149, 153, 157; *Pis 16.4, 18.1*). The double scabbard suspension fittings are morphologically related to those from Gültlingen, Flonheim and Planig (the first in Menghin’s *Zeitgruppe* A, the others in his *Zeitgruppe* B; Menghin 1983, 139, Map 13, nos 7, 43, 56). The Pouan cloisonné is closest to the suspension fittings on the latter two swords, but on the Merovingian Period swords notched plates have been replaced by omega-shaped cells.

The garnet cloisonné buckles at Pouan, like the *spatha* fittings, represent a different workshop or phase of production than the *seax* and small buckle from the grave. The size and decoration of these buckles with hexagonal plates suggests they may have been shoe buckles like those at Apahida I and II (*Pis 16.3, 18.4*). Hexagonal plates are another of the prominent cell-shapes on the Apahida ornaments, which occur here, but not on the Tournai finds. Arrhenius speculated that the Pouan buckles were assembled with sand-putty pastes similar to some buckles in the Magyar Nemzeti Múzeum collection in Budapest, whose workshop origin she locates in Mainz. She was unable to test these particular pieces, however, and so could not confirm her hypothesis (Arrhenius 1985, 128-31).

There is a marked sense of stylistic continuity in the cloisonné on the two Pouan swords, with the semi-circular plates matched to rectangular plates on the *spatha* mouthpiece analogous to the triangular plates and rectangular plates on the *seax* cloisonné. This *spatha* may represent a succeeding phase of regional production of cloisonné in Europe, in either the region of the Danube or the Rhine.
proposed as possible places of manufacture of the Pouan seax cloisonné (Chapter Four).

A variation on the Pouan seax pommel was found in the middle Danube region. The heart-shaped pommel from a tumulus grave at Oros near Nyiregyháza, Hungary, is decorated in a Carpet Style version of the Mosaic Style I ornament of the Pouan pommel (Cat. no. 148; Fig. 105). The omega-shaped plates, violet coloured with inclusions, assembled in the fourth class of framework cloisonné with a very thin backing sheet, are features that recommend comparison with the Apahida phase of the Carpet Style. The pastes used on the Oros ornament, however, were calcite pastes with no parallels at Apahida (Arrhenius 1985, 203). The white circular inlays set with flat garnet plates on the Oros pommel may be traced back to works datable to the late second Hunnic Period, such as the Regőly buckle and fibulae (Tejral 1988, 268, Map 3).

Just as the Pouan seax pommel appears to copy the Late Antique Mosaic Style I cloisonné, so the Oros pommel and the Pouan spatha imitate the Early Byzantine Carpet Style. Both seem to be either less expensive or regional variants of rather grander, perhaps official styles.

The presence of a gold torque of Hunnic Period type in addition to the seax in the Pouan grave suggests that either this man began acquiring his status ornaments during the second Hunnic Period or he inherited ornaments from this period. The level of status his torque denoted can only be assessed in relationship to his gold arm-ring, his possession of two weapons and a personal ring. The name HEVA on his ring has both Ostrogothic and Gepid parallels and has been interpreted as broadly eastern Germanic (Betz in Werner 1967/68, 123). Pépin proposed that the man buried at Pouan may have been a Visigoth (Pépin 1980, 170). Kazanski, and this author, see no way of making any specific tribal determination (Kazanski 1982, 29-31).
It is doubtful that the man at Pouan held official Roman status at the level of the Tournai and Apahida I men. The overall lesser quality of his weaponry would seem to confirm this. As his age at the time of death is unknown, there is nothing to restrict further the deposition dates within the time frame established by the Tournai dates. Kazanski has suggested that the burials at Pouan, Tournai and Apahida are contemporary (Kazanski 1982, 29). The dates of the two burials at Apahida relative to one another and in the second half of the fifth century are complex issues pursued in the discussion below. The following section attempts to place the cloisonné found in the two deposits at Apahida in the broader perspective of cloisonné from the middle of the fifth to the early sixth century.

Apahida I and II

The two graves at Apahida, a village outside of Cluj-Napoca, were found some five hundred metres apart. (These in turn were approximately five kilometres away from the hoard at Cluj-Someșeni.) Horedt and Protase dated the Apahida I objects, discovered in 1889, to the third quarter of the fifth century, based upon their relationship to the Childeric finds (Horedt and Protase 1972, 212-16). They interpreted the goods buried in the Apahida II grave as strongly reflective of Hunnic trappings, as opposed to the predominant Byzantine influence in the grave goods of the Apahida I burial (Horedt and Protase 1972, 211). Accordingly they speculated that the Apahida II material was chronologically earlier, than the Apahida I material.

Kiss supports this relative chronological positions of the two graves, as well as the historical identification of the persons buried in them as Ardaric and his "successor" Omharus. Noting that the gold crossbow fibula in the Apahida I grave
finds its closest parallels with those at Tournai and Reggio Emilia, Italy, he would allow a longer chronology of between AD 454-490 for the Apahida I objects (Kiss 1982, 166). Sixty solidi provide a terminus post quem of AD 491 for the Reggio Emilia hoard, reinforced by the assumption that it must have been deposited after the Ostrogothic occupation of Italy, post AD 490. The coin dates and the contents of the find indeed suggest that the Reggio Emilia material may have been assembled in the second half of the fifth century.

Kiss has charted the parallels between the types of objects in the Tournai, Apahida I and Apahida II graves (Kiss 1987, 200-1). He stresses the absence of weaponry and horse harness in the Apahida I grave and the corresponding absence of insignia in the Apahida II grave. Indeed, were not the find spots of these two graves recorded as being so far apart, the inventories are so complementary as to suggest that they might belong to a single wealthy deposition. The Apahida I inventory included, in addition to the gold crossbow fibula, a gold arm-ring with thickened terminals, two silver vessels with repoussé Bacchic scenes, and three gold finger-rings (Comp. Pl. 11). One of the rings was engraved with the name Omharus in the manner of the Pouan ring; another carried an Early Byzantine monogram and a cross, also interpreted as reading "Omaros" in Greek letters; the third ring was engraved with four crosses.

As noted above, the Childeric date confirms a terminus post quem for the production of the Carpet Style as represented at Apahida. Horedt and Protase outlined the parallels between the cloisonné styles in the two graves and the Tournai grave (Horedt and Protase 1972, 213, Table 1). Prominent among these is the pattern of pinpoint cabochons matching S-shaped cells, found on the seax fittings at Tournai and the purse at Apahida II. Likewise the bird-headed garnets on the lost pommel from Tournai may be compared to the bird-headed plates encircling the Apahida horse harness rosettes. The other point of similarity is the
presence of horse-headed fittings in all three finds. The horse-headed pendants from Apahida I are discussed further below. The paired mounts from Tournai, recorded by Chiflet, were constructed with small garnets in rectilinear rows as opposed to the large individual garnet plates decorating the Apahida fittings of the same profile (Pls 13.1, 18.3). These may have functioned as purse mounts.

The discussion below examines those features of the cloisonné ornaments in the grave that might be considered Hunnic and those that might be considered Byzantine. The separation of these elements is not always clear-cut, however, and therefore the nature and proposed time-span of the two graves are not easily defined on this basis alone.

One significant factor must be borne in mind with regard to these comparisons. This is that neither of the Apahida finds was scientifically excavated. As noted in the catalogue, the Apahida I material, found by day labourers, was in the possession of the tenant holder before being acquired by museum officials; the inventory of the grave goods was not clear even to the nineteenth-century commentators (Kiss 1987, 194-7). The presence of a single shoe buckle and a lone cup fitting confirm that the inventory is far from complete. Therefore to assume, for example, that neither weaponry nor horse harness was present in the burial is unfounded.

The Apahida II grave suffered mechanical damage from the laying of concrete foundations and only the grave goods from the pelvis downwards were removed by museum officials. The sketchy published plan of this excavation suggests that this, too, was a less than rigorous operation.

The gravity of this problem is underlined by the recent acquisition of yet another buckle from the area, on display in the Museul de istorie in Bucharest. It appears identical in all respects to the surviving buckle from Apahida I, but its source or findspot in relation to the other graves has not yet been published. If
this did not originally belong with the inventory of one of the two graves, the possibility must be entertained that yet a third burial, or a larger group of burials exists in the area.

Stylistic and Technical Considerations

The garnet cloisonné objects from Apahida II are too numerous to discuss individually in this survey. A brief stylistic and technical examination of the Apahida material provides a useful background for the objects selected for this analysis.

Two impressions emerge from an examination of the Apahida II material. The first is its stylistic coherency, particularly in comparison to the three finds discussed above. The second is the degree of variation within that coherency. The workmanship is of the highest quality. The loose plates from the find reveal the casualness with which repetitive shapes were ground (Comp. Pl. 3), but the skill with which these were set more than compensates for their irregularity. Some stones, such as those forming the beaks of all of the vulture-headed fittings are set with two plates, perfectly fitted to one another (Cat. nos 157, 159, 165; Pls 19.1, 19.3, 20.7). This is characteristic of many of the more unusual shapes in the Apahida fittings, where the jeweller’s imagination outreached the bounds of garnet stone sizes and conventional shapes.

Such careful adjustment of plates to a predetermined design suggests a gem grinder working in tandem with a jeweller, or, less likely, a jeweller doing his own gem preparation. At the same time, however, the number of repetitive shapes and forms lends an almost mechanical, production line air to the numerous fittings. The garnets themselves are uniformly almandines, ranging from a pale to deep
violet, many with inclusions visible to the naked eye, the majority set over patterned gold foils.

Tactile, three-dimensional surfaces and repetitive surface ornamentation, create a sort of mesmerising *horror vacui* in the Carpet Style. Aesthetically, the Apahida material appears removed from the classicising patterns of Mosaic Style II, for example, where the individual plates form complementary elements within a larger motif. Yet the closest parallels with some of the Apahida plate shapes, such as circles drilled with holes, are found exclusively in Mosaic Style II.

Although Horedt and Protase demonstrated how certain clusters of plates appeared to be specific to the functions of certain objects within the horse harness (Horedt and Protase 1972, fig. 8, 201-2), nonetheless many of the plate shapes are repeated on a wide range of objects. Clusters of hexagonal cells appear on the purse lid and on shoe buckles; carved bars are set on harness fittings as well as buckles; and bird-headed shapes are employed on the sword fitting (pommel?) as well as the bosses and fittings of the horse harness. It would seem that the Apahida II weaponry and horse harness items were manufactured as a matching set.

These features, combined with the uniform garnet plates, imply production by a single group of craftsmen, most probably, given the sheer quantity of fittings, operating in a single established workshop. Either these pieces were constructed within a relatively short time span, or their owners had easy access over a period of time to a workshop working in a more or less consistent manner.

At the same time there are also dissimilarities between the cloisonné in the two graves. The two large belt buckles from the two graves are stylistically similar, but the Apahida I buckle is simpler, and of squatter proportions. It lacks the complicated tongue plate and tongue cabochon bars of the Apahida II buckles (*Pls 16.4, 4a, 18.1*). Likewise the shoe buckle from the Apahida I grave is out of
place with the Apahida II material (Pl. 16.3). Although it bears an hexagonal rather than a trefoil centre cell, the cloisonné design and form of the buckle is comparable to the Blučina and Tournai buckles, rather than to the Apahida II shoe buckles, which are in every way an elaboration of the form (Pl. 18.4, 4a-c). The horse-headed pendants from Apahida I (Pl. 16.1), with Rectilinear Style inlays over unscored silver foils also have no parallels in the Apahida II objects. Only the cup fitting from the Apahida I grave, which bears an identical pattern to those on the harness fittings from the Apahida II find, is truly comparable with the delicate workmanship of the Apahida II material (Cat. nos 151, 162, 163; Pls 16.2, 20.3, 20.4). While the dating ranges of the two graves must overlap, there is clearly a distinction between the two.

At least three alternative possibilities emerge from these comparisons. The first is that these two burials are contemporary, but perhaps of slightly different status. The second is that the Apahida I burial, with its heavy, simpler ornaments, might be the earlier of the two graves. The third is that the Apahida I burial imitates the finer Apahida II workmanship and thus is indeed chronologically later.

Although Arrhenius' research must be considered very preliminary, the few laboratory analyses performed indicate that some distinctions exist between the two finds. One rosette and one eagle fitting from the Apahida II find were constructed with gypsum pastes (Arrhenius 1985, 203). The Apahida I buckle was analysed as having carbon as the main constituent (Arrhenius 1969, 79, 219, 241).9

Pastes with carbon as a main constituent were also found on the octagonal cup from Pietroasa and several of the Simleul-silvaniei (Szilágy-somlyó) fittings (Cat. nos 67-9, 72, 74, 179; Arrhenius 1985, 204). If the latter do represent regional production it might be argued that a competent atelier, imitating a specific style without access to better urban paste sources, mixed up pastes with locally

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available ingredients. From this perspective the Apahida I buckle, as an imitation, would be necessarily somewhat later than Apahida II. But other Simleul-silvaniei fibulae had different pastes altogether or no pastes at all (Arrhenius 1985, 203, quartz without wax, 204, wax), and the argument could be easily reversed.

Although it may be tempting to see various pastes as either workshop or chronological indicators, it may be unwise to advance any interpretation on paste analyses alone. It may then be asked if there are other grounds which may illuminate the relationship between these two finds.

**Hunnic and Byzantine Elements**

In terms of the cloisonné, although Hunnic Period elements are preserved in both Apahida finds, Late Antique and Early Byzantine features are also present. It is preferable to see the Apahida material as a conflation of all these trends. It is true that the Apahida material falls in the continuum of Hunnic Period forms such as buckles with solid loops and bean-shaped plaques. Rectilinear bands of plates around buckle tongue shields likewise have Hunnic Period precedents, as does the mounting of cabochon bars down the length of a buckle tongue.

Other details such as the setting of a cabochon bar horizontally across the bottom of a strap end, in a proportional fashion, is at present known only in the Late Antique material preserved at Kerch. The intervening material is missing from the record, but there can be little question that the strap ends at Apahida II (Cat. no. 166; Pl. 20.6; reconstructed as crupper fittings by Horedt and Protase) are descended from Mosaic Style I as represented at Kerch (Cat. no. 51; Pl. 5.1). Likewise the three-dimensional construction of the rosettes from the horse harness at Apahida replicates the construction of some pommels preserved in the Crimea, but this may be more a result of form following function than signifying directly-
There is evidence that the types of garnet grinding present at Apahida were present in both Hunnic and Early Byzantine cloisonné around the middle of the century. Thin cabochon bars, known on jewellery found in Soviet Georgia (Fig. 97), appear on triangular strap distributors, probably from shoe buckles, at Szeged-Nagyszéksós, Hungary (Cat. no. 169; Colour Pl. X.2). These and a single surviving leaf-shaped strap end were obviously acquired from a different source than most of the material at Szeged. The strap end bears two matched chevron-shaped garnets of high quality, ground with a median ridge like the strap-end and buckle tongue garnets at Apahida II (Colour Pl. X.2a; Cat. no. 156; Pl. 18.4b-c). It is also useful to compare the composition of the trefoil-shaped buckles from that find (Colour Pl. X.2a) to the headstall fittings from Apahida II and the 'cup' fitting from Apahida I (Pls 16.2, 20.4). If current arguments regarding Totenopfer as a feature exclusive to the Hunnic Period are accepted, the Szeged articles were deposited not much later than the close of the second Hunnic Period (ca AD 454). The openwork cup from the site was also constructed in an Early Byzantine style.

Horedt and Protase and also Kiss have argued that the primary evidence of Hunnic influence at Apahida II is the presumed presence of a Hunnic-style hard wooden saddle. These scholars interpreted the two birds and the three smallest rosettes as fittings for a hard wooden Hunnic saddle (Horedt and Protase 1972, 204-5, fig. 9), ornamented in the manner of the seventh-century saddles from Vallstenarum and Wesel-Bislich (Kiss 1984, 189-94). The primary evidence for this saddle is the presence of the two large fittings in the shape of vultures among the horse harness (Cat. no. 159; Pl. 19.3). These, together with three snaffle bits and numerous cloisonné fittings found at the feet of the man, had apparently been placed in a wooden chest, reconstructed from preserved iron fittings (Horedt and Protase 1972, fig. 11).
Curiously, metal rim fittings, the hallmarks of Hunnic saddles, preserved in many less favourable conditions, were not present in the Apahida II deposition. Horedt and Protase were aware of the problem this presented for a Hunnic interpretation, amplified by the absence of representational imagery on Hunnic saddles. They accordingly suggested that parallels should be sought in saddles and horse trappings from the Byzantine and Sasanian Empires (Horedt and Protase 1972, 207). Although there is very little to work from, it is nonetheless instructive to consider the Apahida saddle fittings and horse harness in that light.

Several features allow the exploration of this possibility. The first is that another non-Hunnic saddle, perhaps from the same period, preserves Carpet Style omega-shaped plates. Indeed the only contemporary non-Hunnic saddle fittings preserved in the archaeological record are those from Tomb B3 at Ballana, one of two burial sites of the Nubian aristocracy preserved on either bank of the Nile in Upper Egypt.10

Horedt and Protase based the placement and combination of the Apahida ornaments on the Ballana saddle, which represents a well-documented local type of construction. Found on a sacrificed horse, the high front board bore two small circular plaques with rosette patterns at the base, a similar plaque at the top had an outer border of omega cells and a rectangular fitting at the centre was decorated with bilateral rows of omega cells. These fittings were made of gilt bronze with coloured glass inlays. Török speculated that they may have been made in Alexandria, together with the silver horse harness in the tombs, which he interpreted as gifts from the Roman prefecture in Alexandria (Török 1988, 52, 108-9). Other ornaments with omega plates were recovered by Petrie in Egypt (Petrie 1927, 24, pl. xviii.27, 31).

Török suggests the latest possible date for Tomb B3 is AD 475, but prefers a deposition in the second quarter of the fifth century, based on the Byzantine silver
in the tomb (Török 1988, 134-43). Although some of his arguments may be questioned, the deposition must be considered contemporary with, if not earlier than, the Apahida burial. It is clear that ornamented saddles must have developed in other regions independently of Hunnic saddles and reflecting broader traditions of cloisonné ornamentation. It must be admitted then, that if the vulture fittings did decorate a saddle (and this is by no means sure), its appearance and construction may not necessarily have been Hunnic.

Secondly, the horse harness ornaments themselves must be considered. Although an accurate reconstruction of the appearance of the horse harness from Apahida II may never be possible, it should be noted that Horedt and Protase’s suggested placement of the rosettes on the bridle is almost certainly inaccurate. These delicate fittings, with rivets all the way around, must have been mounted on straps at least as wide as themselves, and could never have seen service at a strap junction unless they were mounted on, for example, a wooden backing with loops (Cat. nos 160-2; Pl 20.1-3). It remains curious that there are no mounts with loops which could accommodate the headstall straps, particularly as mounts with loops of this sort seem to be represented among the lost Tournai fittings (Pl. 13.1). A combination of rosettes forming a garland on a single decorative breast band is not unfeasible and as a general concept has parallels in Late Antique ceremonial horse ornaments in silver (above; Kent and Painter 1977, 49, no. 98). Alternatively, some of these fittings could have been mounted directly against a larger rigid surface like a saddle, the chest itself, or if we are willing to accept the possibility of numerous vessels, as omphalos mounts in cups, as Kiss suggested (Kiss 1982, fig. 4.2).

The bird-headed fittings would seem inescapably to represent horse harness, derived from Late Antique Roman rather than purely Hunnic forms (Cat. no. 165; Pl. 20.7). The numerous surviving Hunnic harness fittings are all in sheet metal,
sometimes set with cabochons, typically in long strips or crosses (for example, Tomka 1986, figs 6, 22; Menghin 1987, III.3-47). The size and concept of the Apahida harness fittings, with a prominent centre projection, are comparable to Imperial Roman Period harness pendants (Bishop 1988, fig. 44.2e, 46.7). The addition of bird-heads to these forms may be traced in their descendants in the first half of the fifth century in Europe (Menghin 1987, 180, III.49.f, 462, XI,7a). The latter are sometimes found in Hunnic contexts, but developed within provincial Roman metalworking workshops.

In short, in the absence of fifth-century Early Byzantine horse ornaments, it cannot be stated with certainty what these might have been. But there is nothing to discount the possibility that they resembled the Apahida ornaments. If the possibility is allowed that the saddle and horse harness might reflect Roman influence, then the chronological distinction between the two graves, at least on the grounds that the second is more Hunnic than the other, must be reconsidered. There were classic "Hunnic" elements at Apahida I as well, if Kiss’ reconstruction of the clip fitting from the first grave as a cup mount is accepted (Cat. no. 151; Pl. 16.2; Kiss 1982, fig. 4).

For Kiss the clinching argument regarding the later, Byzantine status of Omharus is the presence of the six horse-headed hangers, which he argues were suspended from a fabric diadem made in imitation of an imperial crown (Kiss 1987). Three objections may be raised to this ingenious, but ultimately unconvincing theory. The first is the number of pendants. Portraits of Late Antique/Early Byzantine diadems show quite clearly the presence of four pendants, two on either side of the face (Delbrueck 1933, fig. 71.2, pl. 120). The second is the construction of the pendants, with numerous dangling chains. No existing representations show Roman diadem pendants splitting in this fashion. Finally all of the imperial diadem pendants are represented as strung pearls.
imitation of such an important item would have remained closer to this standardised form in one of these respects? It is interesting that Kiss did not essay a reconstruction of his proposed crown.

If a more prosaic, but more practical function for these pendants is assumed, the picture changes altogether. Perhaps these heavy horse-headed pendants formed part of a horse harness. The bell-shaped terminals then would have jingled appropriately at the ends of their chains. These could either have been attached to the saddle, to the crupper or haunch straps or to the tripartite junction of the breast and shoulder straps. The late third or first half of the fourth century AD Sasanian rock reliefs at Naqsh-i-Rustam, for example, illustrate three ornamental straps or ribbons on the horses's rear haunches, presumably suspended from the back end of the saddle (Pope and Ackerman 1938, iv, pls 155a, 156a, b). Scythian Period finds from Maikop in Soviet Abkhazia preserve similar chain pendants, which have been interpreted as horse or wagon ornaments (Griefenhagen 1970, 55-9, pi. 34.2). Horse harness mounts are not, in themselves, "Hunnic" features, but rather trappings of military and/or civic status.

The above discussion suggests that it must be considered whether there any secure grounds for assuming that the Apahida I burial is necessarily later than the Apahida II burial. Indeed the presence of Rectilinear Style ornamentation and the presence of a gold arm-ring with thickened terminals in the first burial would all seem to be features with their best parallels near the middle of the century. Gold arm-rings of the weight and appearance of the Apahida I example find their best parallels at Wolfsheim, Pouan, Tournai and Blučina (Werner 1980, 6, table i). These, like gold torques, were probably awarded within the context of the Roman military bureaucracy (Appendix IV). Examples of this weight do not appear in burials after the period of Childeric.

Turning again to the cloisonné itself at Apahida II, we find that some of its
significant parallels are within the Early Byzantine tradition as defined in Chapter Five. The most pertinent stylistic comparisons with the Apahida cloisonné lie in the late fifth and early sixth century. Parallels for the cloisonné cell-shapes on the Apahida II ornaments fall into two overlapping categories. The first group of comparisons are with objects that fall in the Early Byzantine tradition as defined in Chapter Five. The second are the objects from Ostrogothic, and occasionally, Merovingian Period contexts of the late fifth and early sixth century in the subsequent phase of the Carpet Style. These may be easily summarised.

First, the setting of small cabochons sunken into a rim of gold appears on jewellery from late fourth-fifth-century contexts, most notably at Piazza della Consolazione (Comp. pl. 13.1) and on a ceremonial belt in the collection of the Getty Museum, Malibu, California (JPGMJ 12, 1984, 257, no. 143a). Circular plates drilled with holes, such as those on the Apahida II belt buckles, appear on such pieces as the Vienna panel, the Varna cross and the earrings from the Reggio Emilia treasure in Italy (Pl. 10.1; Comp. Pl. 10.1; Bierbrauer 1974, pl. xxxiii.7, 8). 

*Hedera*-shaped cells on the snaffle bits and the clip fittings (possibly from a cup) (Horedt and Protase 1972, pl. 37.6-8) also have parallels in the cross from the Varna treasure. The latter two finds are conventionally dated to the late fifth or early sixth century.

The flimsy backing plates of the Apahida horse harness rosettes are comparable to the wafer thin backing sheets of the harness mounts from Morskoy Chulek on the Don (Comp. Pl. 12.1-3). The latter were so thin they have worn through completely in places. Features of the Morskoy Chulek cloisonné relate to Mosaic Style II and Cabochon Bar Style garnet plates, while the patterns are paralleled on the Vienna panel. The Morskoy Chulek mounts are probably late fifth to early sixth century in date (Kasparova et al. 1989, 20-21).

The presence of omega-cells on bronze cloisonné from Mediterranean contexts
has already been noted above. These examples could be multiplied, for example with belt plaques with omega cells and lapis inlay from Lydia (Hotel Druout Sale, Paris, 19-20 May, 1987, no. 431), but ornaments from excavated contexts are rare and often from later contexts (Waldbaum 1983, 117, pl. 43.685).

In addition rows of S-shaped plates appears on a gold fitting backed with a repoussé gold sheet with an inhabited vine scroll (Cat. no. 171; Pl. 9.3). As reviewed in Chapter Five, such decoration of gold sheet backings falls wholly within an Early Byzantine tradition. The function of this particular piece remains obscure. In this case its back was probably meant to be seen and, as it shows no wear, Damm's speculation that it was a scabbard slide must be rejected (Damm 1988, 182-4). Like the Gourdon paten and the various Christian items reviewed above, it confirms Early Byzantine production of cloisonné for objects other than military weaponry.

Omega cells, however, also survive on two other specific groups of finds - high-status sword fittings and belt-buckles worn by women. Nearly all of the former, classified by Menghin in his Zeitgruppe B (AD 480-520) (Menghin 1983, 32-6, 58-9, nos 39, 43, 45, 55, 56, 113), were deposited in Merovingian contexts, while nearly all of the latter were found in Ostrogothic or Mediterranean contexts (Werner 1958, 55-61; Bierbrauer 1974, 153-58, 218, 220, pls iii.5, xlv.1; lxiii.4; lxxxii.4; lxxxvi.1; an exception Kidd 1990b, 209-14). The belt buckles are also conventionally assigned to the late fifth and early sixth century.

This is likewise the case with the hexagonal plates at Apahida. In addition to the buckles from Pouan, the other prominent appearance of hexagonal cells is along the bows of the Ostrogothic fibulae from Desana, Italy. The pinhead cabochons in green glass, S-shaped plates and keyhole-shaped plate at the junction of the S-shaped cells relate to Apahida workmanship, while the trefoil-shaped cells recall the Blučina and Tournai shoe buckles. Indeed, of all the
Ostrogothic material in the literature, these objects, despite their rather coarse execution, come the closest to the Apahida workmanship. Bierbrauer proposed a deposition date for the large hoard from this site in the period of Theodoric’s Ostrogothic kingdom in Italy, that is the first third of the sixth century AD (Bierbrauer 1974, 11-117, 263-72, pl. vi.1-2, fig. 24). Other objects in the Desana hoard, such as the bracelets and amulet set with cabochons in sheet gold, relate to production from the second half of the fifth century at Pietroasa (Appendix V). The honeycomb pattern of hexagonal cells on the spatha mouthpiece fittings from Köln-St. Severin, Grave 205, probably belong at the earlier end of Menghin’s Zeitgruppe C (AD 530-70) (Menghin 1983, 38, no. 85). These parallels raise the issues of not only the chronological limits of the Apahida I and II ornaments, but also who owned them.

The question of whether the Apahida material represents the wealth of the Ostrogoths in Dacia prior to their departure for Italy or early evidence of Gepid political power and consolidation in Siebenbürgen is actively debated. As with arguments over the ethnic origins of the Simleul-silvaniei (Szilágy-somlyó) treasure, arguments tend to divide along nationalistic lines, with Harhoiu supporting the case in favour of the owners emerging from an Alanic/Ostrogothic confederation (Harhoiu 1980, 107) and Kiss arguing strongly in favour of the Gepids (Kiss 1982, 164; 1987, 202-6). Horedt and Protase left the question open, as does Pohl, who provides a summary of current arguments (Pohl 1980, 268-73).

Betz, and following him, Werner, identified the name Omharus as Gepid rather than Gothic (Betz in Werner 1967-68, note 24). Horedt and Protase advanced the possibility that the Apahida depositions represented the burial of the Gepid ruler Ardarich (a contemporary of Attila) and his (undocumented) successor Omharus. They were, however, careful to temper this hypothesis with the acknowledgement that the finds might just as well have been in Ostrogothic hands. Wolfram also

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suggests that the Ostrogoths may have been the neighbours in Transylvania of the Gepids on the Tisza River, or that bands of Goths might have persisted under Gepid rule (Wolfram 1988, 255, 488, note 84).

If the Apahida fittings are assigned to the Gepids, then a source for the cloisonné outside the region is almost a necessity, given the almost complete absence of similar cloisonné in the large Gepid gravefields traditionally dated from ca AD 472-568. The one or two surviving ornaments from this period in the Carpet Style confirm the chronological framework of the Apahida finds, but do not suggest extensive production. In addition to the stray find of a ring from Sinnicolaul Mare (Szerb-Nagyszentmiklós) (Csallány 1961, 194-5, ccxvi. 6, 6a), the cloisonné bird *fibula* north of the Tisza River in the Soviet Ukraine is the only surviving imitation of the vulture fittings at Apahida (Cat. no. 170; *Colour Pl. X.3*)

On the small *fibula* from Beregovo (Beregészász) the curve of the beak is set with two sections of stone in the Apahida manner, the cere of the bird is set with green glass, and the semi-circular head cap and shoulder inlay also correspond to the bird fittings from Apahida II. The quality of object is lower than those at Apahida, with the edges of the neck/shoulder stone and the right-hand breast stone roughly chipped and ill-adjusted to their cell walls. In contrast to the rather beautifully ground foot plate, these other plates may either have been reused or were just inexpertly handled and of cheaper quality. 12 The other *fibulae*, arm-ring and ear-rings found in the female grave fall within the material culture typical of the phase of Gepid occupation of Pannonia ca AD 453-72 (Csallány 1961, 220). A flat bronze plaque from Grave 61 at Szentes Berekhát, Hungary in the same shape as the Beregovo *fibula* is the only hint that this form may have had a wider local distribution (Csallány 1961, 77, pl. lxviii.2)

Assignment of the Apahida graves to the Ostrogoths has the benefit of a series of finds in related styles from Italy reviewed above. Yet, the majority of
these, including the Desana *fibulae*, are of inferior workmanship. Somewhat later cloisonné from the period of Theodoric (ca AD 490/93-526), such as the saddle fittings supposedly from his tomb at Ravenna and the treasure from Domagnano are rendered in a completely different style, again, of notably poorer quality. This could suggest that the Ostrogoths acquired such high-quality cloisonné before they moved to Italy. Alternatively it might be supposed that goldsmiths were attached to their aristocratic clients and moved with them. Then the change in the quality of cloisonné after their move to Italy could reflect a new generation of jewellers.

If this was the case, however, it is difficult to explain why are there no ornaments in this style surviving from the old Roman province of Pannonia where the Ostrogoths spent the period between AD 456/7-472. Perhaps access to goldsmiths in Italy actually increased the number of cloisonné objects in Ostrogothic possession. Likewise, if the Ostrogothic label is put aside, it might be considered whether some finds of high quality from Italy pre-date the Ostrogothic occupation? It is not unrealistic to view such ornaments as simply the rare survivors of much more widespread styles, not limited to the Germanic tribes, whose origins and true distribution of use can only be estimated.

Two further buckles throw some light on these problems. The buckle from Esslingen-Rüdern in Bavaria, although set with large plates, again is of less skilful construction than the Apahida buckles (Cat. no. 168; *Pl. 18.6*). The buckle plate is set with a central quatrefoil in white inlay with a central garnet cabochon in the manner of mid-fifth-century works such as the Blučina buckles or the Regőly *fibulae*. The garnet cabochons surrounding the plate are each housed in discrete cylindrical cells filled with paste, and soldered individually to the outer walls of the plate and loop. Despite the use of pinhead cabochons, this is much closer to the method of construction of the Tournai rather than the Apahida fittings. This grave group, another nineteenth-century find, also contained ornaments which may now
be defined as the essential elements of a ranking military attire - a *seax* and a *spatha*, the latter with a gold hilt, plus trilobate arrowheads and a composite bow as at Blučina (Appendix IV). Is this cloisonné Alamannic, as its owner presumably was, or simply Early Byzantine?

An unpublished buckle from Kerch is also intriguing despite its poor condition (Cat. no. 167; *Pl. 18.5*). This is closer to the Apahida variant of the Carpet Style, with hexagonal cells and pin-point cabochons embedded in the broad gold rim. But the crude plate on the tongue again suggests this was a cheaper or provincial variant. Without resorting to stray Ostrogoths in Bavaria and the Crimea, it may be suggested that these buckles also reflect broader trends of Roman production, evidence of which is only now beginning to emerge.

**Conclusions**

Several points may be highlighted from the discussions above. As noted in the Introduction and discussed in Appendix IV, the combination of weapons, arm-rings or torques and *fibulae* strongly suggest that these are the ornaments of an officer class in the Late Antique/Early Byzantine Period. These men were either literate in or familiar with Latin and/or Greek, and certainly had contact not only with the Roman *militia* system, but also probably functioned within it.

In terms of the chronology of the graves, the finest material at Tournai (the *seax* chape fittings) is comparable and presumably contemporary with the Apahida burials. Likewise the Tournai and Blučina graves contain analogous and presumably contemporaneous material. The *spatha* and shoe buckles at Pouan are contemporary with, or later than the material at Apahida, as that is what they appear to imitate.

Strictly speaking, however, there are no stylistic connections between the
cloisonné at Tournai and Pouan or between Blũčina and Pouan. The Blũčina and Pouan assemblages have in common weaponry fittings with a mixture of what appear to be Danubian and Rhenish features. The workshops that produced both the Pouan and Blũčina fittings presumably were aware at some level of the kind of work represented at Apahida, but the former was certainly closer to Apahida in terms of the cloisonné styles. Whether this relationship represents geographical or chronological proximity or both is extremely difficult to specify.

All four graves contained cloisonné with analogies in the second Hunnic Period. All the graves except Apahida II contained ornaments executed in very different styles, which reflect either different sources and/or earlier time periods. Three of the men, for example, acquired spatha with fittings in different, and presumably later, styles.

The issue of the relative chronology of the two Apahida graves remains complex. The division between "Hunnic" and "Byzantine" elements, unsurprisingly, is not always a clear-cut one. It may not be incorrect to detect Byzantine features in the Apahida II grave, despite the absence of official insignia such as that present in the Apahida I grave. The Apahida I cloisonné ornaments, on the grounds of style, pastes and object types, can all be contained within the limits suggested by the Childeric date. A long chronology for the graves rests upon comparisons with material deposited in Italy, which may be earlier, however, than the deposition dates implied by their coins. It remains curious that work related to the Apahida styles should have so few parallels or successors securely datable within the fifth century, which must suggest that variants of this style were actively produced throughout the final quarter of the century, regardless of the deposition date of the Apahida graves.

James has recently noted the distortions to the archaeological record that have arisen in the dating of Frankish graves south of the Somme and Ardennes based
on historical arguments (E. James 1988a, 76-7; 1988b, 9-12). As reviewed above, underlying assumptions about the ethnicity of ownership, the assessment of Hunnic versus Byzantine features and the strict chronology those features imply pervade the analyses of Apahida. When the depositions are removed from their hypothetical tribal associations and treated merely as a random pattern of archaeological depositions of one class of jewellery, a different picture emerges.

From the perspective of this study one significant factor in the second half of the fifth century must be the reassertion of Roman authority in the old provinces after the death of Attila. Pannonia had been ceded by Ravenna to the Huns in the 430s, but by AD 457 the Eastern Emperor Marcian had concluded a foedus with Valamir, the Ostrogothic ruler in Pannonia. As Wolfram has noted "...after the mid-fifth century the influence of Constantinople prevailed there (in Pannonia) among the many different types of federates" (Wolfram 1988, 260). Likewise recent excavations in Bulgaria suggest that the restoration of Roman control over the North Bulgarian Plain began not long after the depredations of Attila ceased (British Archaeological Expedition to Bulgaria, the Interim Report for 1989, 9-11).

Recognition of this situation does not insist that the highest quality ornaments in these graves were made under Byzantine supervision, but acknowledges that access to gold and gems, as well as the skills of jewellers, might well have been enhanced by these arrangements. The integration between Early Byzantine symbols of rank and top-quality garnet cloisonné is indisputable. Although it cannot be stated with certainty that this association presupposes imperial gifting and/or cloisonné manufacture in Constantinople, the possibility must be considered a strong one.

One recent interpretation of the Notitia Dignitatum has suggested that military fabricae in the Balkans were relocated into Constantinople for security reasons during and after the Hunnic Period (S. James 1988, 285-6). Such an historical
fragment, slight as it may be, becomes more persuasive when reinforced by the common pastes and styles on the Apahida and Tournai material. Jewellers working in the capital may have established popular styles, which were subsequently distributed both through official and unofficial means.

It is unclear to what extent similar trappings were worn in Italy, North Africa and the Eastern Mediterranean. In his article on material with omega plates (halbkreismondformige cellwork) Werner recognised that their presence in Ostrogothic period cellwork might be evidence of the influence of a Mediterranean tradition (Werner 1958, 60). The many examples of Byzantine cloisonné in bronze preserved in these regions would certainly seem to emerge from common heritage. A classification of these second-tier objects, whose chronology may overlap with that of the status gold cloisonné preserved in Europe, may provide the key to the degree and nature of the rôle of the Byzantine Empire in this process.

NOTES

1. To the naked eye they are indistinguishable, in terms of hue and inclusions, from Sasanian Period seal stones (Appendix III).

2. The paten provides an example of some of the confusions in Arrhenius' theories regarding templet. On the one hand she argues that the stones in the centre are cut from the b. St-templet (each 'step' measuring app. 1.2 mm) rather than the a. St-templet (each step measuring app. 1.8 mm). As the smaller b-shapes replaced the larger a-shapes in her scheme, she supposes the cross to have been a later addition to the plate (Arrhenius 1985, 70). She herself seemed to realise the weakness of this argument as she later deems the two sizes to be *fairly contemporaneous* (Arrhenius 1985, 123). While the notches on the lower stones in the cross are very small, the notches on the plates in the transverse arms of the cross are greater in size than the notches on the border rhomboids. Furthermore, the greatest dimensions of the largest cross stones are the same as the dimensions of the auxiliary stepped triangles on the rim. Here the heights of the steps on which she has based her theory are irrelevant to the size of the stones being employed.

3. It would be useful to know what cement was used in ornaments from the second and third classes of framework cloisonné. Were any other examples of these, like the Ostrogothic buckle in the British Museum, also assembled with gypsum pastes? What is the significance of the inclusion of a superb Kentish disc brooch from the seventh century AD among the objects with gypsum-based pastes? Perhaps this evidence reveals inherited traditions of technology, rather than fixed geographical production centres.

4. More ambiguous is the fact that the lost large buckle and one circular stud from Tournai, as drawn by Chiflet, appear to be set along their sides with thin curved cabochon bars matched by flat
circular settings at the top of the buckle plate (Pl. 13). The latter are comparable to the flat circular plates on the stepped rhomboid seax mouthpiece. The buckle also has a thin carved cabochon bar. These appear to be simpler variants of the Apahida buckles with the elaborated alternation of carved cabochon bars and rectangular plates matched by pinhead cabochons, but whether this necessarily means they are earlier is difficult to say. It is possible that they are simply a less expensive variant.

5. A fact which renders the imitation of this pattern on the so-called Theodolinda dagger from the fake Lombard treasure even more entertaining (R. Smith 1931, pl. xv.1).

6. Small circles of gold wire sunk in white inlay also appear on the Apahida finds (Cat. no. 163) and on the buckle in the Castellani collection (Roth 1979, pl. 71a).

7. The immediate successors to this form with rectangular buckle loops and plates and rectangular stones on the upper tongue are the female buckles at Acquasanta and Tortona, Italy and Köln-Severinstor, Germany (Werner 1958, 57-58, pl. 11.1, 2; Bierbrauer 1974, pls ii.5, xlv.1, lxxxvi.1; Kidd 1990b, fig. 1, pl. 22). These, however, all incorporate bordering rows of omega-cells in almost identical designs. These appear to be succeeded by another series of buckles, combined with a kidney-shaped plate, characteristic of fittings from some high-status male graves in Menghin's Zeitgruppe B (ca AD 480-520) (Menghin 1983, 46, 50, 51).

8. The mint-condition Reggio Emilia coins are divided as follows: three of Marcian (AD 450-457), thirty-seven of Leo I (AD 457-474), two of Leo II and Zeno (AD 473 and AD 474), seventeen of Zeno (AD 474-491) and one of Basiliscus and Marcus (AD 476-477). Three solidi from Zeno were struck at the Ravenna mint, one solidus of Leo was from the Thessalonica mint, the remainder were from Constantinople (Bierbrauer 1974, 302-9).

9. This is assuming that the buckle identified as from Apahida I was mistakenly listed in the 1985 volume as from Apahida II (Arrhenius 1985, 204).

10. The chamber tombs at Ballana and Qustul, some plundered, but others with much of their inventory still intact, were excavated in the 1930's, but only recently have been the subject of an extensive re-analysis (Emery 1938; Török 1988).

11. The late sixth- to early seventh-century successors to these harness fittings, at sites such as Castel Trosino, Nocera Umbra and Niederstotzingen, are also of similar scale and conception. These graves also preserve bird-headed rosettes and headstall fittings in triplicate, which are similar to those at Apahida II (Paulsen 1967, figs 30, 33-4). The revival of fifth-century forms in the late sixth and early seventh century, which also has a cloisonné component in material such as that preserved at Sutton Hoo, is beyond the scope of this thesis, as is a detailed revision of the Apahida II horse harness.

12. Pace Arrhenius, who calls the workmanship "exquisite" and whose drawing mislabels the location of the green inlay (Arrhenius 1985, 113, fig. 127).
CONCLUSIONS

An analysis of all of the elements of garnet and gold cloisonné strongly suggests that this was a facet of Late Antique jewellery, which arose in Western Asia, was adopted in the Eastern Roman Empire and which continued to flourish into the Early Byzantine Period. There is every reason to suppose that fashions and tastes then, as now, emanated from centres of power. The focus throughout this text, therefore, has been upon who produced garnet cloisonné ornaments rather than who wore or used them. While clients can influence tastes, and regional styles may become popular, the specific skills, lapidary equipment and supplies required to produce garnet cloisonné restricts the manufacture of the best ornaments to urban centres.

The association established between garnet plates and flat garnet intaglios and beads produced in Graeco-Roman lapidary workshops from the first century BC onwards provides a proper matrix for the terminology, nature and scale of production of cloisonné inlays. It is striking and not insignificant that the two high points of garnet jewellery production in the ancient world, in the Hellenistic and Late Antique Periods, arose at moments of heightened economic interaction between strong, eastward-facing governments and the rich traditions of the Greek colonies in Western Asia and the Pontus; the Scythian/Sarmatian cultures in southern Russia; and the Parthian/Sasanian kingdoms in Western Asia.

In the broadest sense, the grinding and polishing of flat garnet plates reflects the mutual stylistic and technological influences between East and West in the first three centuries AD. The preservation of ornaments at points along the trade routes is therefore probably not accidental. This distribution pattern (Map 1) contrasts with the distribution of garnet cloisonné ornaments in the fourth and fifth centuries (Maps 2-8). The latter reflects the practice of inhumation with
grave goods and the accidental conservation of material in hoards, primarily along the old borders of the Roman Empire. This is precisely the sort of distribution that characterises other Late Antique ornaments such as *fibulae* and military belt fittings.

In the first phase of true garnet cloisonné, from the second half of the third through the first decades of the fifth century, two main trends of decoration may be recognised. One (the Unit Cell Style) appears to derive directly from the setting of individual garnet plates in geometric shapes onto jewellery. The second (the Medallion and Rectilinear Styles) applies plates either as a border zone or zones around a central jewel, or in a simple rectilinear row or grid on a panel. The earliest datable examples of both styles are preserved in the trade route cities of Western Asia, reflecting in the broadest sense the Hellenising roots of garnet cloisonné.

In Soviet Georgia and in the Bosphorus, the two regions where extensive depositions provide clear windows onto this period, both styles are preserved on a range of weaponry and jewellery. The fact that material of very different natures in these two regions overlaps chronologically demonstrates the widespread growth of cloisonné inlaying in the Late Antique Period. By the first Hunnic Period there is also evidence of the combination of the elements of the Medallion and Unit Cell Styles.

The simplest of the geometric garnet plate shapes - circles and rhomboids - have antecedents in garnet intaglios and beads produced in the Roman Period; the combination of these forms conform to Late Roman and Late Antique aesthetics of ornamentation. Other prominent garnet inlays, such as heart-shaped plates and cabochon bars, probably derive from Hellenistic antecedents, and reflect the revival of Greek lapidary skills and traditions.

Inlays ground in a restricted size range characterise the Unit Cell branch of
garnet cloisonné styles. Geometric plates in standardised sizes reflect the sort of production that might be expected from a lapidary workshop in an urban area with a steady supply of stones, engaged in inlaying a number of similar items. Whether this sort of cloisonné was promoted under the auspices of the Eastern Roman bureaucracy in the Late Antique Period must remain speculative, but such work would not have been inconsistent with the sponsored revival of craftsmanship in the Eastern Empire during the Constantinian and post-Constantinian Periods. Although there may have been primary workshops producing garnet cloisonné, the possibility, indeed probability, that local jewellers acquired pre-ground plates in geometric shapes and copied popular styles, must be acknowledged. A detailed examination of the Kerch material supports this hypothesis.

Contemporary with the production of ornaments with simple geometric plates are patterns composed in Mosaic Style I, where circular or rhomboidal plates are centred within a frame. The repetition of these larger units has the potential to create a broadly interlocking pattern. This tendency is fully realised in Mosaic Style II patterns, which subsume individual plates into the complementary elements of the design. Other Mosaic Style I patterns incorporate cabochon bars in proportional relationship to the height and width of the geometric plates. This too reflects a rationalised method of assembling components that probably facilitated uniform production. The distribution of ornaments in these styles - Unit Cell and Mosaic Styles I and II - reflects their consumption throughout the Roman Empire (Map 3).

Two further developments reflect the subsequent phases of these two styles. Linked notched rhomboids are simply a more elaborate version of the geometric plates in the Unit Cell style. We might look to this variant of the Notched Plate Style, standardised and widely distributed, for further evidence of industrial production of weaponry fittings.
Likewise, Cabochon Bar sword guards and the rarely preserved cabochon fittings, such as the seax at Blucina, display costly stones, skilled lapidary work, and proportional designs that reflect another industrialised style of weaponry ornamentation. There is now indisputable evidence that some of these patterns were replicated. At present these styles are concentrated on specific weaponry forms, such as spatha guards and seaxes, a fact which draws them into the orbit of the Eastern Empire, where military fashions from Sasanian and Sarmatian traditions were being absorbed. The implications of the distinctions between the Notched Rhomboid and Cabochon Bar fittings, whether reflective of rank or of eastern versus western workshops, may be revealed with future discoveries.

Cabochon bars were also used on jewellery and luxury vessels, set individually, or constituting bordering zones. Very few examples of these are preserved, but some of them have imperial or classicising connections. Likewise one group of Christian ornaments, worn by women and produced in Mosaic Style II, interface with jewellery preserved in non-barbarian Late Antique and Early Byzantine contexts. Many of these objects incorporate gold backing sheets with repoussé figural and floral motifs.

The models for some of the cloisonné patterns on these ornaments would have been familiar from the classicising floor mosaics laid in fourth- and fifth-century Christian basilicas and wealthy villas in cities around the Black Sea, the Eastern Mediterranean, in North Africa and even in Central Europe. The establishment of workshops producing garnet cloisonné in the Pontus and the Mediterranean should probably be connected with the revival of Greek and Syrian trade from the secure base of Constantinople. The production of ornaments in the Mosaic, Cabochon Bar and Carpet Styles with frameworks of cells resting in pastes suggests that increasing demand for objects led to the development of techniques which required less gold and were easier to manufacture.

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Parallel with the development of these styles in urban or Romanised centres is a series of regional imitations and variations. Many of these rely upon small rectangular and square plates in the compositional formulae of the Medallion and Rectilinear Styles. The application of the Medallion Style to the *fibulae* of the Chernyakov culture, for example, reflects a practical response to current styles, executed to local tastes. Likewise, the simpler variants of the Rectilinear Style, on sword, belt and harness mounts, probably illustrate the disposition of some of the wealth of the various members of the Hunnic confederacy. The poorer quality of stone preparation on some of these ornaments may be evidence of individual artisans, well-supplied with gold, but with limited lapidary skills and access to stones. More sophisticated hybrid styles, incorporating geometric plates with square or rectangular plates, may reflect the rise of local schools of production. Evidence exists to suggest that there were workshops producing garnet and gold cloisonné in imitation of Eastern Empire styles along the Danube and Rhine and certainly in North Africa.

The interpenetration of the barbarians, particularly the Germans and Alans, into the higher ranks of the Roman *militia* accounts in part for the spread and popularity of garnet cloisonné along the border regions of the old Roman Empire; likewise contact between the Romans and the farflung Hunnic confederacies explain its spread into Russia. The spread of styles even further eastward was probably due to a combination of Hunnic and Sasanian tastes.

One consequence of the period of intensive contact between the Romans and the different ethnic groups in the Hunnic confederacy under the rule of Attila was another branch of Early Byzantine cloisonné. Like the classicising Mosaic Style II, the Carpet Style has clear descendants in sixth-century Early Byzantine material in both European and Mediterranean contexts.

Ironically, at the moment when the association between garnet cloisonné and
the Roman Empire is confirmed, in the high-status graves of barbarians serving in the *militia* or as federates, the style itself reflects a marriage of Hunnic and Roman trends. The Carpet Style incorporates elements from the Notched Plate and Cabochon Bar Styles, Mosaic Style II as well as the simple Rectilinear Style and its combinations. To the degree that the Late Antique Period itself reflects a blending of Roman and non-Roman tastes and traditions, unknotting these strands can only ever be partially successful. This is nowhere clearer than in the mixed Hunnic/Sasanian/Roman elements found in the Early Byzantine Carpet Style cloisonné and object types.

Despite its high quality and appearance in high-status barbarian graves of men with official connections in the Roman Empire, the Carpet Style probably does not represent the most luxurious garnet inlaying. Hints of this sort of production are preserved on objects at sites such as Pietroasa, Szeged-Nagyszéksós, and Sárviz which employ very large plates in openwork constructions.

The stylistic groupings proposed here, despite some degree of overlap between the categories, remain visually and technically distinctive and the classifications should provide a vocabulary for future discussions. These styles have been presented in terms of a relative chronology of preservation, following current schemes. These, of course, may or may not reflect the reality of production. The exact boundaries, as well as the nature and points of intersection between these styles, may well be altered with future research.

Nonetheless, the characteristics of the earlier and later phases of all of the styles can be readily discerned. It can be asserted with confidence, for example, that the Medallion/Rectilinear and Unit Cell Styles seem both aesthetically and technologically rooted in the Late Antique Period, while the Mosaic Style II and Carpet Styles look forward to the Early Byzantine Period. The beginning point of the latter styles, deposited in the second quarter and middle of the fifth century, is
not clearly fixed. Portions of Mosaic Style II patterns and framework technology on a few ornaments at Kerch, for example, suggest that either this style began earlier or that the Kerch chronology should be extended forward. Likewise, it might be incorrect to conceive of the Unit Cell Style as an antecedent to Mosaic Style I, when indeed it might only reflect an impoverished imitation. Furthermore, the later variants on the Unit Cell and Mosaic styles, and their hybrids, might have persisted past the middle of the fifth century.

The chronology of the Iberian material also remains challenging. As the primary examples of the first phase of the Medallion and Rectilinear Styles appear there, it is appropriate to envision some degree of overlap with the second phase of these styles in the fifth century. Although a few objects at Simleul-silvaniei might be pushed back into the late fourth or early decades of the fifth century, Phase II of these styles seems most comfortably located in the second and post-Hunnic Periods. At the very least, this would suggest that some of the Iberian material belongs in a post-Constantinian time frame, if not in the first Hunnic Period. There can be little question that the material from the poorer family tombs at Armazis-khevi is comparable with material in the west dated to the second Hunnic Period and later. How much of the Iberian material belongs to the Late Roman Period and how this should be aligned with material in Western Asia can only be decided with further research and new discoveries.

These problems aside, the assembled arguments permit the alignment of garnet cloisonné in the fourth and fifth centuries within Late Antique and Early Byzantine traditions of ornamentation and jewellery manufacture. Further discoveries will presumably reinforce this assignment, while perhaps also refining the elements that distinguish regional styles before the establishment of the Germanic political states in Europe and Africa.

We must not lose sight of the fact that the Roman Empire in the East remained
the stable centre of power. The Ostrogoths were starving and in need of clothing when they reached Italy; Theodoric's assertion that all good Goths want to be Roman should be taken seriously. Barbarians remained dependent upon the Empire to advance their circumstances, to obtain legal land rights, and, in some instances, to extract tribute. As in earlier periods, the acquisition of Roman gold was necessary in order to purchase Roman goods; the active exchange, consumption and deposition of ornaments along the river boundaries and sea coasts of the Empire reflects this process.

The persistence of garnet cloisonné manufacture in Europe and the Mediterranean in the sixth century was due in part to the fact that it symbolised the potent combination of Roman status and barbarian achievement. There is every reason to believe that garnet cloisonné ornaments, whose skill and beauty still delight the eye, appealed equally to Roman and barbarian clients in the Late Antique Period. Surely such work might have been found upon the liturgical vessels from the Early Christian Church, among rich female ornaments such as those buried in the tomb of Honorius' wife Maria, and within the panoply of Sasanian ceremonial attire. If these ornaments had survived, it would be possible to draw a fuller picture of the range of gold and garnet cloisonné in the fourth and fifth centuries AD.
"Garnet" is the group name given to a large number of gem species which share a basic common formula: \( A_3^{2+}B_2^{3+}(SiO_4)^3 \). They are among the most plentiful gems on earth, occurring in massive deposits. Today they are mined primarily in bulk for use as abrasives. Mineralogical information regarding garnet is readily available. Some recent sources (Deer, Howie and Zussman 1982, 467-698; Klein and Hurlbut 1985, 375-8; Stockton and Manson 1985, 205-17; Rouse 1986, 20-33, passim) are summarised here for easy reference.

Most species of garnet may be defined as aluminium or iron silicates where \( A^{2+} \) (the divalent cations) are calcium, manganese, iron and magnesium, and \( B^{3+} \) (the trivalent cations) are aluminium, iron and chromium. Broadly speaking, garnets are divided into pyralspite garnets (Mg, Fe and Mn are the A cations) and ugrandite garnets (Ca is the A cation). Names for the pure compositional end members are given below, but generally garnets are complex solid solutions of intermediate composition. Almandine is the commonest species.

<table>
<thead>
<tr>
<th>Garnet Name</th>
<th>( A^{2+} )</th>
<th>( B^{3+} )</th>
<th>Group Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyrope</td>
<td>Mg(^{2+})</td>
<td>Al(^{3+})</td>
<td>Pyralspite</td>
</tr>
<tr>
<td>Almandine</td>
<td>Fe(^{2+})</td>
<td>Al(^{3+})</td>
<td></td>
</tr>
<tr>
<td>Spessartine</td>
<td>Mn(^{2+})</td>
<td>Al(^{3+})</td>
<td></td>
</tr>
<tr>
<td>Grossular</td>
<td>Ca(^{2+})</td>
<td>Al(^{3+})</td>
<td></td>
</tr>
<tr>
<td>Andradite</td>
<td>Ca(^{2+})</td>
<td>Fe(^{3+})</td>
<td>Ugrandite</td>
</tr>
<tr>
<td>Uvarovite</td>
<td>Ca(^{2+})</td>
<td>Cr(^{3+})</td>
<td></td>
</tr>
</tbody>
</table>

The hardness of garnets ranges from 6.5 to 7.5 on the Mohs scale, harder than varieties of quartz such as cornelian, agate and chalcedony that were also commonly used on ancient jewellery. There is some variation in hardness between
the species, with almandine (7.5) the hardest, the pyrope-almandine intermediate (7 - 7.25), grossular (7) and andradite (6.5) the softest.

All garnets are cubic (isometric) and often form euhedral crystals. Two of the most common forms are the rhombic dodecahedron (a crystal with twelve faces, each a rhombus with four sides) and its multiple, the trapezohedron (twenty-four faces, each a trapezium with eight sides). Garnet is generally considered isotropic, but sometimes it can be distorted along the 'd' faces (or 110 crystal plane). This is particularly true of crystals subjected to the heat and pressure of metamorphism. While garnets do not usually have cleavage (a tendency to break along planes), a distorted molecular structure predisposes the crystal to shatter along parallel planes. Such specimens, sometimes known as schistose porphyroblasts, are known from the garnet mines in Bohemia, one of the best documented garnet-producing localities (Arrhenius 1985, 31). Similarly fractured crystals, such as the large spessartite and almandine crystals reported from American localities (Rouse 1982, 86-7; Arem 1987, 105), probably occur in numerous deposits around the world.

Recent research suggests that such metamorphosed garnets, liable to shatter into slabs, may have been the raw material ground and polished into garnet plates for cloisonné (Bimson 1985, 125, figs. 2, 3; Arrhenius 1985, 30-1). Garnet slabs of this nature were excavated at the ninth-to tenth-century AD Viking Period site at Paviken, Gotland, where there was evidence they were being worked for inlaying (Lundström 1973, 67-77, figs 2, 3).

Garnets occur in a wide range of colours from colourless through green, yellow, orange, red, purple, violet and blue, with only pure blue unknown. The intensity (purity) of the hue affects the visible colour, as does the presence of inclusions. Almandine, spessartine and uvarorite are considered idiochromatic (coloured by ions inherent in their bulk chemistry), pyrope and grossular.
allochromatic (coloured by trace elements in their chemistry). Andradite can be either. The garnets employed most commonly in the Migration Period fall in the red to purplish-red to violet range. These are generally the colours of garnets in the pyralspite series. Certain fifth-century Hunnic ornaments, such as some diadems and the buckle plates from Murga, Hungary (Alföldi 1932, xxvi.2, 3), are mounted with orangey-red cabochons which might prove to be grossular or an intermediate species with a high percentage of spessartite.

Classification remains complex due to the diversity of garnet chemistry itself, and is further compounded by the profusion of terms used to describe garnets in the pyrope-almandine-spessartine intermediate range of composition (Rouse 1986, 68-77). A recent exhaustive study based on over five hundred gem-quality garnets from a wide range of sources proposes eight basic garnet species - grossular, andradite, pyrope, pyrope-almandine, almandine, almandine-spessartine, spessartine and pyrope-spessartine, with a series of precise instructions for separations between the more difficult species (Stockton and Manson 1985). These divisions were based upon multiple electron microprobe analyses to determine the chemical composition of the stones, combined with standard gemmological tests for absorption spectra, refractive indices, specific gravity (density) and colour determinations. The divisions proposed in that study are followed here in interpreting some of the older literature.

Some late nineteenth- and early twentieth-century researchers correctly identified cloisonné inlays as garnet, although the term "Syrian" garnet (a misnomer derived from Syriam, a Burmese site famous for garnets in the nineteenth century) appears frequently (Shkorpil 1907, 32). The assumption that flat red inlays were glass or enamel, however, is also common in turn-of-the-century literature (von Stern 1897, 4-5; Pharmakowsky 1908, 163). Fettich, in his study of the finds from Simleul-silvaniei (Szilágy-somlyó), published the results
of specific gravity tests of five garnets from that treasure (Fettich 1932a, 71).
One stone was identified as hessonite (a variety of grossular), the others were
classified as intermediate between pyrope and almandine. Rupp also identified the
inlays in some Merovingian disc-brooches as almandine, again on the basis of
specific gravity tests (Rupp 1937, 13-14). The British Museum Research
Laboratory published the small garnets surviving on the seventh-century AD
Anglo-Saxon cross of St. Cuthbert as predominantly pyrope with a few almandines
(Plenderleith in Battiscombe 1956, 542-4; Organ in Bruce-Mitford 1974, 296-9).
The stones were examined while still mounted and neither the broad refractive
indices (above 1.66) nor the absorption spectra information included in the report
are specific enough to allow positive discrimination of the species.

Stockton and Manson have shown that specific gravity by itself is not a
reliable key to identifying garnet species, in part due to the difficulty of obtaining
accurate measurements but also because of weight differentials introduced by
inclusions (Stockton and Manson 1985, 212, 216), so all conclusions based on
specific gravity must be approached with caution. As researchers turned to more
comprehensive analyses, however, the mineralogical results were broadly similar.
Unworked garnets excavated at Paviken, examined by electron microprobe, x-ray
diffraction and gemmological tests, were pyrope-almandine in composition (56.3%
almandine, 27.07% pyrope, 14.25% grossular and 2.38% spessartite) (Löfgren
1973, 84). Löfgren concluded that these originated from a highly metamorphosed
source rock, probably a garnet amphibolite, and suggested a local source in
Sjönevad, Halland, Sweden (Löfgren 1973, 86-8).

The most complete set of results based on standard gemmological tests was
published by Mellis, working with Arrhenius. He tested garnet plates from
cloisonné jewellery in the collection of the Statens Historiska Museum, Stockholm,
as well as examining the inclusions in the stones (Mellis 1963, 297-362). Only
one of these plates came from a fifth-century piece (SHM 10038); the rest were Merovingian or Carolingian in date. He divided the garnets into five groups on the basis of their chemistry, the first three of these were pyralspite, the fourth was almandine-pyrope intermediate, the fifth was pyrope (Mellis 1963, 345-6, Tables 1, 3, 5, 7, 9). If Stockton and Manson's more sophisticated division of garnet properties is applied to Mellis' analyses, the following terminology applies: groups one to three are almandine or almandine-spessartine, group four has two pyrope-almandines and one almandine stone, group five is pyrope-almandine. The colours he recorded for the stones suggest that all of the stones in the first two groups and several of them in the third are predominantly almandine in composition.

All except three of the forty-one garnet plates tested had mineral inclusions of various types - short and long needles, intersecting needles, zircon and apatite crystals. These are wholly consistent with garnets in the pyralspite series, with some inclusions, such as crossed needles of rutile (Mellis 1963, pls 5, 7, 18, 32, 42, 48), practically ubiquitous throughout the almandine and pyrope-almandine species (Rouse 1986, 60). More significantly, Mellis' examinations of the inclusion crystals, which grow parallel to the crystal faces, showed that the ground surfaces of the stones coincided with the crystal faces (Mellis 1963, 355-9).

Researchers at the British Museum Research Laboratory also recorded difficulty in determining refractive indices of garnet plates whose planes were perfectly parallel (Bimson, La Niece, Leese 1982, 52). Attempting to discover a means by which garnet plates could be examined while still in their settings, the British Museum Research Laboratory used x-ray fluorescence to examine the stones. Mineralogy played no role in these analyses as the critical elements of magnesium and aluminium could not be detected using their procedure. Nonetheless, the count rates for silicon, iron, calcium and manganese revealed statistically-significant differences between garnets mounted on Gotlandic, southern Russian
and Frankish objects. The seventh-century AD Sutton Hoo garnets were generally within the range of the compositions of Merovingian garnets (Bimson, La Niece and Leese 1982, 54-8).

In an attempt to distinguish the sources of garnet stones, a further set of experiments were carried out for Arrhenius by Carlström in Stockholm using x-ray diffraction (a specific technique of x-ray crystallography) to determine the cell dimensions, or diffraction values of a group of garnet plates. She retested some of the stones used by Mellis and added some new ones from cloisonné objects in the museums in Mainz, Germany, and Budapest, Hungary (Arrhenius 1985, 27-34).

Arrhenius established four classes to express the statistically separable distributions of diffraction values and chemical composition. As she did not publish the refractive indices, absorption spectra or colour of the stones she examined, their mineralogy cannot be fully assessed here. All of the specific gravities she recorded, however, fall in the range of almandine or pyrope-almandine. She concluded that Classes One and Two comprised stones from a "comparatively homogeneous European source". Class Three, which included the disc brooches from the Simleul-silvaniei (Szilágy-somlyó) treasure (Cat no. 67; Colour pl. V) and a small mount from the Crimea (Cat. no. 62), she felt had an "oriental" origin. Class Four, consisting of a single stone from an ear-ring from Hatra (Cat. no. 14, Fig. 25), she proposed, might have come from India, as its diffraction values were similar to one of the six stones from Ceylon she tested (Arrhenius 1985, 34). On the basis of the known diffraction values from schistose porphyroblasts from Zbyslav, Czechoslovakia, she suggested that Class One garnets originated in Bohemia, or in sites similar to these (Arrhenius 1985, 31).

This was consonant with her theory that sixth-century garnet cloisonné production drew on local sources.

As garnets form in igneous and metamorphic rocks, often in pegmatitic
solutions, their composition is related to the petrogenesis or paragenesis (the order of crystallisation of the constituent minerals in a rock deposit) of the host rock. Modern geology uses garnets extensively to determine the sequence and grade of metamorphism (Okay, Arman and Göncüoğlu 1985; Ashworth and Evigren 1984). The diffraction values and chemistry of the stones, however, vary within individual layers of deposits in a locality and even within single stones (Deer, Howie and Zussman 1982, 546-8). Arrhenius herself notes Bohemian pyropes with different diffraction values depending upon whether they came from the primary rock or serpentine deposits, as well as the widespread distribution in Europe alone of garnet amphibolites equivalent to her Class 2 (Arrhenius 1985, 30, 32-4).

With this in mind it is difficult to assess whether x-ray diffraction, gemmological and chemical analyses of stones from heterogeneous objects will ever have any value in determining ancient sources. Considering that no systematic geological studies of gem-quality deposits of garnet have been attempted, until a much greater amount of information is in hand it will be impossible to know what the degree of similarity of petrogenesis might be in different localities. While differences based on major elements chemistry might be indistinguishable, trace element chemistry might prove quite variable and Bimson is probably correct to see this as one way forward in future testing.

From the perspective of this study, it would be interesting to see how garnets from a range of Roman, Late Antique and Migration Period sources might correspond to these figures. The British Museum Research Laboratory results certainly hint that there may have been broadly different sources employed in Europe as opposed to southern Russia, and that there may be some relationship between the garnets from Scandinavian and southern Russian objects, which could reflect ancient trading patterns.
Smith (1950) and Rouse (1986) discuss the numerous modern and ancient sources known for different species of garnet and the history of their discovery. *The Wealth of India* (1956) contains relatively detailed listings of the massive deposits in India. The following Old World sources may be noted as sites for gem-quality specimens of the various species. Almandine is known from the extensive mica-schists in Rajasthan (former Jaipur, Kishangarh and Shapura states) and Hyderabad in India as well as the gem-gravels of Sri Lanka; NW Pakistan, Burma, Thailand, Zambia and Tanzania are also sources. A primary source of pyrope has always been NE Bohemia (present-day NW Czechoslovakia); other smaller central and northern European sources are known, as are deposits of superb quality in South Africa. Sri Lanka and the central provinces of India are sources of grossular and its varieties, as are East Africa, Italy and Siberia. The intermediate series pyrope-almandines are reported from Ceylon, Madagascar, Zimbabwe, India, and East Africa (Tanzania/Kenya). Spessartine and almandine-spessartine garnets are known from the Spessart district in Bavaria, but are also abundant in India, Sri Lanka and Madagascar. Large (up to three centimetres in diameter) gem-quality spessartines and almandine-spessartines are also reported from pegmatites in Eilat in southern Israel (Rouse 1986, 88).

These sources must be taken into consideration when reviewing Arrhenius’ hypotheses of garnet stone sources based on diffraction values. Almandine was reportedly an insignificant feature of Bohemian deposits (Rouse 1986, 65), and even if the other recorded European sites are taken into account, the inescapable fact that massive deposits of this species and the other intermediates exist in India and Africa must be acknowledged. Another factor is the overall size of the various
species. In general, pyrope stones are very small, with one carat stones the most common from well-documented sites in Bohemia and Arizona. Conversely, almandine gems are noted for their size, which is often very large and sometimes source-specific (Rouse 1986, 62; India 1956, 113). It seems probable that some large plates of violet-red to pale violet colour found on some objects datable to the second half of the fifth and early sixth centuries are predominantly almandine in composition, and most probably from India or Africa. These are very similar in hue to contemporary Sasanian garnet ring-stones, whose mineralogy also has been recently analysed and found to be predominantly almandine (Bimson in Bivar 1969, 35-6).

Theophrastus (372 - 287 BC) and Pliny the Elder (AD 23 - 79) are the primary ancient sources for information about garnet stones (Caley and Richards 1956; Pliny IX). The ancient evidence for garnet sources and trade has been thoroughly discussed recently and need only be summarised here (Roth 1979, 309-35; Arrhenius 1985, 23-6; Rouse 1986, 1-19). Theophrastus, writing in the late fourth century BC, was unaware of India as a possible source. He mentions the Phoenician colonies of Carthage (North Africa) and Massalia (modern Marseilles) as cities where anthrax gemstones (the Greek term generally accepted as meaning garnet) could be bought and notes that anthrax was found near Miletus in Asia Minor. The first two trading post cities could have received gemstones from Europe, India and Africa. Although Miletus was also a terminus of the eastern trade route proceeding from Antioch, Pliny, writing in the first century AD, considered the region of Caria as a mining area, with Orthosia as a source and Alabanda (modern Arabhissar, situated on a tributary of the Maeander between Miletus and Ephesus) as a primary lapidary centre.

As Rouse has noted, Pliny’s work was addressed to a more sophisticated and discriminating audience, who thought they could distinguish garnets from different
sources and who graded stones on the basis of brilliancy. Pliny was well aware of
the Indian trade and considered Ethiopia as a source. His mention of Lisbon,
Portugal (where small modern deposits of garnet are known) would seem to con­
firm the accuracy of some of his reports (Roth 1980, 317). In many passages,
however, he appears to rely upon secondhand information, and simply follows
Theophrastus in citing Massalia as an import source.

Recent commentators fall into two camps. One tends to consider India as the
primary source for ancient garnet stones, with cities such as Thebes and Carthage
mentioned by Pliny as points along the trade routes from India, rather than
repositories of gems from African sources (Roth 1979, 319, 335; Higgins 1980,
38, on Bimson’s suggestion). Roth has recently assembled additional fifth- to
ninth- century AD sources which support the concept of India as a primary source
of garnets (Roth 1979, 318-323). Other researchers doubt this assumption,
noting the widespread presence of garnet deposits in Europe, Africa and Western
Asia, and the consequent possibility of local sources having been exploited
(Haevernick 1972; Ogden 1982, 98; Arrhenius 1985, 26-36; Rouse 1986, 7).

Whilst the primacy of India must be acknowledged, the modern knowledge of
deposits such as the rich African ones must not be ignored and it may well be that
any explanation that relies on a single source is too simplistic. The gem trade in
garnets today remains fraught with uncertainties. Most dealers in a city such as
London, far from the original sources, are unlikely to know whether the stones in
their possession originated in India or Africa. The issue is complicated by
smuggling, the desire to conceal good localities and the fact that African garnets
are frequently shipped to India for polishing in the large Indian workshops. These
problems, compounded by the complexities of garnet mineralogy, may have
changed little since ancient times.

Even if the large areas of northern India, for example, began to be
systematically mapped and sampled, it seems unlikely that many stones could be matched to their sources. Indicators such as mineral inclusions, used for other gems, may be site specific for some pyropes, but are less so for almandine and almandine-pyrope intermediates (Rouse 1986, 41, 60). The British Museum researchers suggest neutron activation might reveal source-specific differences (Bimson, La Niece, Leese 1982, 52), but this again would require a considerable body of fieldwork to reinforce a laboratory situation with permission to dismount garnet stones. Beyond the growing body of literature that suggests that Migration and Merovingian Period garnets were almandine-rich in composition, the mineralogy and sources of the garnets employed in cloisonné remains a challenging and potentially unrewarding line of investigation.

**Hellenistic Greek and Roman Cabochon Technology**

As early as the Badrian Period in Egypt (ca 3200 BC), garnets were drilled for use as beads (Ogden 1982, 98). Recently a large (4.3 x 1.8 cm) Neo-Assyrian cylinder seal (1000 - 700 BC) carved in green grossular garnet has been identified in the British Museum collection (Collon 1987, 167, no. 773). The development of garnet jewellery in the west does not really begin until the late fourth or early third century BC in the Greek world. Inlaid and individually set gems prior to that time were largely limited to varieties of chalcedony (particularly cornelian), and softer minerals or materials such as turquoise, lapis lazuli, amber and glass.

A major shift in emphasis away from intricate goldsmithing towards polychrome decoration with precious stones and glass occurred in the Hellenistic Period, following the incorporation of parts of Egypt and Western Asia into the Alexandrian empire. Garnet-set jewellery from the fourth to first centuries BC has been found over a wide geographical area from Eretria and Thessaly in Greece to
Italy, Syria and southern Russia, a distribution that reflects Greek settlement and trading patterns but does not permit any definite associations with places of manufacture.

Garnet stones ground in the Hellenistic Period may be assigned to the following broad categories:

1) oval, round or drop-shaped cabochons (Fig. 13a-c);
2) cabochons in the shape of an ivy leaf (hedera) (Fig. 13d);
3) cylindrical garnets and garnet bars (Fig. 13e);
4) crescentic-shaped cabochons;
5) drilled round beads;
6) vertebrae-shaped beads (Fig. 13f);
7) beads shaped as links of a loop-in-loop chain (Fig. 13g);
8) stones engraved with figural subjects in high relief (Fig. 13h); and
9) drilled irregular garnet beads (Fig. 13i).

A few of these cabochon shapes are largely restricted to the Hellenistic Period (nos 6, 7, 9), some appear occasionally in the Roman and Late Antique Periods (nos 2-5, 8), while others remain common from the fourth century BC through to the fifth century AD (no. 1).

The superb garnets in categories 6 through to 8 imply a well-developed technological capability at an early period. One of these, carved in the shape of a satyr's head, is set on a medallion from one of the earliest coin-dated tombs on the Taman peninsula, perhaps from the later fourth century BC (Pharmakowsky 1913, 179-80, fig. 2). Other more elaborate garnet shapes such as those in categories 2 and 3 are used only on diadems and necklaces dated to the later third or second century BC (Segall 1938, 32-5).

There can be no question that the grinding and polishing capabilities of Greek lapidaries was very accomplished. The slightly greater hardness of garnet (6.5 - 7.5 on the Moh scale) compared to chalcedony varieties (6.5 - 7.0) presented no major obstacles, confirming ancient records of the easy availability of good sources of emery or corundum in the Greek islands and Asia Minor. High-relief
cabochons and beads for suspension in earrings and necklaces indicate the use of small engraver's tools such as burrs and drills. Hollow rotary drills must have been used to shape such features as the lobes of *hedera* stones. At the same time, irregularly-shaped garnet beads (no. 9) suggest that some pebbles were simply tumble-polished and drilled.\(^7\)

Garnets also began to be engraved as intaglios and set into ringstones for the first time in the Hellenistic Period (Furtwängler 1900, ii, 130-46, 153-73). Despite their marked increase in popularity on jewellery, garnet stones formed a relatively small percentage of the total intaglios, comparable to the harder quartz varieties such as amethyst or rock crystal. A survey of the large museum collections of Hellenistic intaglios in Munich (Brandt 1968, I) and the Hague (Maaskant-Kleibrink, 1978) reveals that most Hellenistic engraved garnets tended to be round or oval cabochons, shaped with a convex upper surface (Maaskant-Kleibrink 1978, 82-5).

While many shapes disappeared, or survived only in provincial areas, Hellenistic oval and round cabochons passed directly into mainstream Roman jewellery. The Romans inherited the widely diffused cosmopolitan styles of the Eastern Mediterranean and Western Asia, and fully exploited the possibilities of the trade routes from India to Roman Syria.\(^9\) With the first century BC Caucasian campaigns of Pompey, the Romans also discovered the existence of the Caspian trade routes, the "Way of the Golden Fleece", the control of which may have been one cause of the disputes between Rome and Parthia over the critical region of Armenia (Map 1; Warmington 1974, 26-33; Sherwin-White 1983, 201).

In the Roman Period the variety of garnet stone shapes in jewellery decreases dramatically, with most of the intricate forms of the Hellenistic Period disappearing. This may have been due in part to more industrially-scaled production. The primary garnet cabochon shapes in the Roman Period are:

1) oval cabochons, generally set in broad, plain bezels;
2) drop-shaped cabochons, often with a median ridge; and
3) conical cabochons (Fig. 14 a-c).

The distribution of objects with stones in the first category extends from Roman Britain and France to the eastern provinces and client states of the Roman Empire. Segall assigned a group of ear-rings with stones set in this manner to Syrian workshops active in the first century BC, speculating that such heavy box settings for garnets may have developed from Syrian styles (Segall 1938, 56-7).

Tear-drop shaped cabochons characterised jewellery from the eastern Roman provinces and adjacent Parthian territories. Excavated examples of conical cabochons are datable from the second half of the second to the first half of the third century AD and are known from Western Asia, Soviet Georgia and the Crimea (Pfeiler 1970, 76; Apakidze et al. 1958, 278; Skalon 1961, 126-40). In comparison to some elaborate Greek gems, the lapidary skill required to produce both of these forms is minimal. The reduction in elaborate gem forms parallels the rise in the production of flat garnet plates for inlaying, another relatively expedient means of preparing large numbers of stones for settings.

NOTES

1. This cannot be conclusively assessed without the full range of absorption spectra (Mellis published only the five hundred bands), but the violet-red and clear violet he recorded are not typical of either almandine-spessartine or spessartine. This reclassification obviates to some degree Arrhenius' reservations about Mellis' tests, which placed stones from the same object in two different categories. The stones she cites (Mellis 1963, 336-7) would both fall in the almandine classification created by Stockton and Manson. She felt that such results contradicted the archaeological evidence, perhaps assuming that cloisonné objects were always assembled with stones from a single source (Arrhenius 1985, 27).

2. Mellis did not attempt to identify all of these, but there is a great deal of information in the literature regarding similar inclusions of amphibole, rutile, augite, hornblende, ilmenite, spinel, kyanite, monazite, biotite and quartz in almandine garnets (Gübelin 1950, 288; Gübelin 1953, 166-82; Arem 1987, 105).

3. Okay, Arman and Göncüoglu investigated the Pre-Cambrian gneisses of the Bitlis Massif in eastern Turkey, describing lenses of porphyroblastic kyanite-eclogites with large, pink garnet crystals up to one centimetre in diameter within the groundmass. These garnets belonged in the almandine-pyrope-grossular series, with zoned crystals with an increasing pyrope component.
towards the rim. They note almost identical zoning in the kyanite-eclogites from the Tauern Window in the Eastern Alps (Okay, Arman, and Gönçüoğlu 1985, 197, 200).

4. "For every two tons of garnet mined at Bohemia, one stone occurred of about five carats; and for every two pounds, there was one stone of about 2.5 carats; however, one carat stones and below were progressively common" (Rouse 1986, 42). "Carat" is a measurement of weight (now standardised at 0.20 grams), and stones necessary to produce a good faceted gem would probably be of better colour and translucency than many acceptable for garnet cloisonné plates. Even the fractured slabs of stone used by the author, however, generally weighed two carats or more, and ground plates weighed between 0.5 and 1.0 carats.

5. Large deposits of emery with 50% corundum such as that needed to grind and polish garnet stones are located in the Massif Central in southwestern Turkey (Caley and Richards 1956, 188), near extensive formations of garnet schists and gneisses (Izdar 1971, 494-500). Geologists in Turkey have reports of crystals of almandine up to 2 inches in length from pegmatites in this region, although it is no longer mined as a gem source (personal communication from A.I. Okay, I.T.U. Maden Fakultesi Jeologi Bolumu, Istanbul, December, 1986). As the inland portions of Carian Asia Minor did not come under full Greek control until after the Persian Wars and the Alexandrian conquests, one interpretation of the evidence might be that the introduction of Indian garnet specimens of good translucency and size stimulated local explorations in Asia Minor.

6. The early twentieth-century scholars Minns and Rostovtzeff sought the origin of this 'polychrome style' in the Northern Pontus (Minns 1913, 386-7, 404, 430-3; Rostovtzeff 1922, passim). Southern Russia, however, has produced a disproportionately large number of finds from burial contexts, a situation not dissimilar to that in the Migration Period. Modern researchers have emphasised the impact of Persian and Egyptian polychromy upon Hellenistic styles (Higgins 1980, 155-6).

7. The shape of some of these garnet pebbles resembles that of a pomegranate seed. The origin of the word "garnet" in Indo-European languages derives from its resemblance to the seed of this fruit, Latin *grana* (having many seeds) or *granatum* (pomegranate) (Smith 1950, 309; Hoffman and Davidson 1965, 286). The root of the Latin word may be related to the Sanskrit gar, to wear away, perhaps referring to the abrasive capability of garnet (Smith 1950, 309).

8. In the Berlin collection, for example, there are six garnets, twelve amethysts and fifteen rock crystal intaglios as compared to three hundred and fifty-seven stones of the chalcedony varieties in the collection ranging from Minoan to Late Imperial in date (Zwierlein-Diehl 1969, 316-17). The relative amounts and sizes of garnet used in ringstones in different periods are discussed further in Appendix III.

9. Although Roman sources continued to confuse Ethiopia and India, Ptolemy was able to refer to the Saka and Kushan districts in north and northwest India and enumerate inland Tamil kingdoms with their royal seats and kings (Warmington 1974, 110, 116). Writers satirised and criticised the steadily increasing demands for luxuries from India by Romans (Dio Cassius, LVII.15), while Tiberius complained of the tastes in dress and jewels sending Roman bullion away to foreign and unfriendly peoples (Tacitus, *Annales*, III.53; II.33).

10. Examples of these cabochons include almost identical necklaces from Rome and Kerch, the latter with a terminus post quern provided by a coin of AD 62 (Higgins 1980, 179), earrings from a Parthian tomb outside Nineveh in northern Iraq dated to the first century AD (Curtis 1976, 47-66), and late second- or early third-century AD ear-rings from Lyon, France and Armazis-Khevi in Soviet Georgia (A. Böhme 1974, 64-6; Apakidze et al. 1958, 278). An ear-ring set with garnets, turquoise, pearls and coral discovered near Lake Batyr in Kazakhstan illustrates the nature of trade contacts in the first centuries AD (Skalon 1961, 117). The construction of its upper section
resembles that of Parthian earrings from Tell Umar in Mesopotamia (Braidwood 1933, 65, 69), its middle section may be compared to the ear-rings from Tomb No. 6 at Armazis-khevi in Soviet Georgia (Apakidze et al. 1958, 278), but the addition of dangling gold leaves and coral transforms it into an example of local Bactrian taste.
APPENDIX II

Medallion Style (Persia and India)

The continuation of Medallion Style cloisonné applied to round or oval pendants appears to be restricted to Persia and northwest India in the fifth century AD. This would appear to be largely a function of the differences in dress between the East and the West. The numbers of surviving pieces, however, are two few to draw any truly valid conclusions. Nonetheless, the very few surviving objects in this category provide an interesting comparison with material from the West. How precisely these pieces can be dated is difficult to determine. If, for example, the pendants from Taxila discussed below are assigned their traditional dates (second - fourth centuries AD), the shapes of notched garnet plates they incorporate would predate similar shapes in the West by a century or more. Such early dates, however, are not particularly secure, and there are grounds for viewing all of the surviving Medallion Style material in the East as more or less contemporaneous with Migration Period and Early Byzantine cloisonné in the West.

The Louvre Museum holds a Sasanian Period necklace with a central pendant in Medallion Style (Cat. no. 172; Pl. 21.1). Although in poor condition, some of the surviving stones in both the central section and its "wings" may be seen to be thin, slightly convex cabochon bars similar to those set on ornaments in the Crimea and Iberia, datable to the first Hunnic Period (ca AD 380-410/20).

Amiet identified the profile portrait bust in the centre as a functionary of the Late Sasanian Period (Amiet 1967, 278). Similar crowns appear on Sasanian silver plates from Perm, imitating the crown of Shapur III (AD 383-88) (Harper 1981, 74-5, 86, pls 24 and 32), which may have been produced in provincial workshops in
the fourth and fifth centuries (Harper 1981, 88, 129-30). On this basis and taking into account the style of the cloisonné, a date later than the fifth century is unlikely and a date in the first half of the century not unreasonable.

The Römisch-Germanisches Zentralmuseum in Mainz holds two other garnet-inlaid sections from a necklace or breast-chain, set with a large **hedera**-shaped stone and a palmette, both in relief, which has been taken as evidence of a garnet-workshop in northern Iran (Schulze-Dörrlamm 1986b, 914). The relief garnets from the Cup of Chrosroes may also be cited in this context although, in line with the rock crystal carving, it is tempting to regard these as later products from Central Asia or Afghanistan in contact with the Sasanian empire. Schulze-Dörrlamm’s proposed date of the late fifth century for the Mainz pieces may, however, be slightly too late in view of the fact that the revival of the Hellenistic-style **hedera**-shaped garnets appears to be a phenomenon of the Late Antique Period (Chapters Two and Three).

Two cloisonné medallions, supposedly from ancient Taxila (present-day Pakistan), are in the collections of the Victoria and Albert Museum and the Cleveland Museum of Art (Cat. no. 173; Pl. 21.2,3). The former plaque retains its outer border of seed pearls, while the Cleveland object is surmounted by a palmette-shaped frame, once probably also inlaid. They are otherwise virtually identical and must have come from the same workshop. It is probable that they formed part of the same object. The inlay of curved rectangular sections of stone around the border is typical of the Medallion Style, with one significant difference - the garnets are notched at either end to key the plates into the floral-shaped cell walls. Although notching is known from the Ahin Posh reliquary, presumably from the second to third centuries AD, similar notched stones in the West are generally dated from the middle to second half of the fifth century AD (Chapters Five and Six).
Czuma recently dated the Cleveland pendant piece to the Gandharan Period, ca second century AD (Czuma 1985, no. 75); Hallade dated it second to third century (Hallade 1968b, 101, pl. xi); while Mode and Rice dated the Victoria and Albert plaque to the third to fourth century (Mode 1959, 47, 193 (165); Rice 1965, 141, pl. 26). The Victoria and Albert Museum’s accessions records also suggest a later date of the third to fourth century.

The iconography of the repoussé figure at the centre of both plaques is too complex for a full discussion here. The traditional identification of the figure as the goddess Hariti presents certain problems as neither her appearance nor attributes on the pendants agree with sculptural representations of that goddess from the Kaniṣṭha period, that is the second century AD (Bivar 1970, 10-21). Although the presence of a repoussé lotus blossom on the reverse of the pendant bears some relationship to similar blossoms from the second century AD, for instance on the base of the reliquary from Bimaran (British Museum, London, no. OA 1900,2-9,1), it is simplified and stylised compared to earlier types. The rigid stylisation of Graeco-Roman drapery is reminiscent of Parthian sculpture at Hatra, Iraq (second century AD) (Colledge 1986, pls xxxii), but similar drapery treatment continued in Guptan sculpture of the fifth century. The type of crown depicted on the pendants appears on fourth- and fifth-century representations in northwestern India and Pakistan (Bussagli and Sivaramamurti 1971, 87, 95, 96, pls 83, 103, 105).

Another indication of date comes from fifth-century Guptan reliefs showing figures with central breast medallions, suspended by five or six chains or ropes (Bussagli and Sivaramamurti 1971, 130-1). Like some Early Byzantine chains, these must have passed over the shoulders and crossed at the front and back, where they were secured by medallions (Dennison and Moorey 1918, 149-50, fig. 43, pls xxxix and xl; K. Brown 1984, 17-29). This would account for the identical
pair of pendants, each with three loops on the reverse for distributed suspension. Assuming them to have been a pair, the Cleveland piece with its decorative top may have been intended for the front and the Victoria and Albert medallion, with a fourth suspension loop, for the back.

This interpretation is supported by another garnet cloisonné medallion excavated in Soviet Kirghizia, at the cemetery at Shamshi (Map 1; Cat. no. 174; Fig. 106). This medallion is suspended in the centre of six linked chains, each of the chain links being set with a relief acanthus or palmette in garnet. The border of the medallion is set with small square and rectangular garnet plates. They surround a carved garnet bust of a robed figure, set in its own individual frame. Although at first glance this figure appears to be a tour-de-force carving of a large stone, in reality it is composed of two separate stones - the bust formed from a relief bean-shape, the head carved from an oval cabochon. The simple, Medallion border contrasts with the sophisticated garnet palmettes and fleur-de-lys in the chain links.

Similar palmettes in cornelian were excavated from Kurgan No. 1 at Dzhety­Asar No. 3, in southern Kazakhstan, dated to the fourth-fifth centuries (Levina 1966, 85). Both Kirghizia and Kazakhstan were controlled by the eastern Hunnic state, and in the fourth and fifth centuries AD burials such as that at Dzhety-Asar are analogous to Alan burials in the Caucasus. The fact that artisans in these eastern regions of the Hunnic empire were cognisant of stylistic developments in the West is demonstrated by a pair of ear-rings from Shamshi with missing inlays, constructed in Mosaic Style I (Kanimetov et al. 1983, 46-7, 142-3).

The acanthus shape of the Shamshi garnets may be compared to the similar stones on the 24.6.1904 Kerch longsword scabbard panel and the Agaiani ear­rings (Cat. no. 42; Fig. 45 and Colour Pl. II.1c). It may also be compared to the crushed cells at the top of the Cleveland Museum's "Hariti" pendant. These
sumptuous stones from Central Asia reaffirm the fact that relief-carving and intaglio carving of gems flourished in the Hunnic periods in northern India, Afghanistan and Central Asia (Göbl 1967, iv, G12, G20), as well as Sasanian Persia proper. Unfortunately, little else has survived from Western and Central Asia to indicate what Sasanian and Eastern Hunnic cloisonné styles might have been in the fifth century, although their wealth and variety should not be doubted.

NOTE

1. Czuma proposed an identification of the stones on the Cleveland piece as cornelian, based on the colour of the stones (Czuma 1985, no. 75; and personal communication 14/1/88). The author's examination of the Victoria and Albert piece leaves little doubt that the stones on the piece in London are garnet underlain with plain gold foils, a practice which does alter and lighten the colour of the stones somewhat.
APPENDIX III

Comparative Measurements of Garnet Intaglios, Sealstones and Cloisonné Plates

Any attempt to link fifth-century garnet production with Roman lapidary traditions encounters two immediate obstacles. The first is chronological - intaglio production decreases dramatically in the course of the third century, with few carved stones assignable to the fourth. This may have been due to several factors, including changing tastes in jewellery and perhaps an increased difficulty in obtaining good stones as the Sasanians assumed greater control of the trade routes. Henig has noted recently that as fewer gems were cut after the third century in the Roman West, the "revived Persian monarchy saw a renewed burst of activity" (Henig and Whiting 1987, 3). At the same time jewellery hoards such as the Thetford treasure attest to the reuse and recutting of older engraved stones in the fourth century (Henig in Johns and Potter 1983, 30).

The second difficulty in postulating such a connection is that consequently few garnets are included in museum collections of Roman Period intaglios. In the Berlin collection, for example, there are only 6 garnets recorded among a total of 564 intaglios ranging from the Minoan, Greek and Etruscan through the Roman Periods (Zwierlein-Diehl 1969). In the Hanover collection 12 garnets were identified among 1,739 intaglios (Schlüter, Platz-Horster and Zazoff 1975). Other collections, such as the Munich collection preserve relatively large numbers of Hellenistic garnets (63 stones of a total of 272, or 23% of the total (Table I). This is a noticeable increase over the Classical Period, with only 1 garnet among 104 stones. In the Late Republic and early Imperial Period, however, the percentage of
garnet again drops to 0.3% (1 stone out of 273). Among the stones assigned from the second to fourth centuries AD, garnets comprise only 1.4%, or 7 of a total of 478 intaglios (Brandt 1968; Brandt and Schmidt 1970; Brandt, Krug et al. 1972).

The Sasanian lapidary tradition from the third to the sixth centuries, however, overlaps the period when garnet cloisonné was practised in the west and includes a significantly higher proportion of garnet stones among the typical chalcedonies (Table II). When compared to the above review of Roman collections, the percentage of garnet stones in the Sasanian collections is notably higher, 11.59% of the total (92 of 794 stones), and 29% of the bezels (92 of 312 stones) in the British Museum collection, 7% of the total in the Hermitage collection (Table II). These stones have been dated from the third to the sixth centuries, but the majority of garnets fall in the fourth and fifth centuries.

As there is little evidence of intaglio production under the Parthians (Bivar 1969, 1, 13), it may be that production in urban centres in the Eastern Roman Empire influenced the developing Persian styles of carving and polishing, as perhaps did the surviving intaglio-carving workshops operating in India. Bivar has noted that the Sasanian shapes "correspond with shapes known for the Roman Empire in the third and fourth centuries A.D.", a situation "to be expected as fashion and lapidary techniques will no doubt have been to some extent international" (Bivar 1969, 20). Certainly the Sasanians, by the time of their consolidation of control over the Kushan dynasty in Afghanistan and northern India in the late third or early fourth century (Harper 1978, 22-3), would have had primary access and presumably first choice of many of the gemstones traded from India.

The largest published holdings of Sasanian seals are in the British Museum and the Hermitage (Borisov and Lukonin 1963; Bivar 1969). Unlike the Graeco-Roman
form of intaglio gems intended solely for display in ringstones, many Sasanian gems were worn suspended and employed as stamp seals, often bearing inverted inscriptions (Bivar 1969, 18). The authors of the catalogues recognise two distinct classes of forms. One consists of large three-dimensional stones, predominantly in varieties of chalcedony, pierced with a hole for suspension and with a single face polished flat and engraved. No garnets appear in this category of seals. The other class, bezels (the stones destined for mounting in rings) includes numerous garnets. Ring bezels were ground as hollow cabochons, as stones with flat backs and convex surfaces, and as bezels that are flat on both sides. The latter group constitutes Bivar's Bezels A and D and Borisov and Lukonin's Types VI and VII (Bivar 1969, 20, 142; Borisov and Lukonin 1963, 70).

Although these observations and the succeeding mathematical calculations must be approached with caution, the relative percentages of different gemstones in Table I must suggest trends that should be taken into consideration in the interpretation of Migration Period garnet cloisonné. There is, of course, no way to interpret precisely what the percentage of stone types in different periods of Graeco-Roman through Sasanian intaglio and seal production means. Although the examination of this number of collections presents as random a sample as is possible, the tastes and prejudices of curators and collectors cannot be discounted. It is tempting to suggest, however, that the rise in the use of garnet in Western Asia parallels the rise of garnet cloisonné in the west, and reflects not only shared tastes, but trading patterns and availability of garnet stones.

**Comparison of Late Roman and Sasanian Intaglios**

In order to determine whether the Sasanian lapidary tradition could be regarded as a continuation of the Graeco-Roman tradition and therefore comparable to the
the Late Antique and Migration Period, a statistical comparison was made of the size ranges of the later Roman intaglios (second - fourth centuries AD) in the Munich collection with the dimensions of Sasanian seal bezels in the British Museum (Graphs 1-4). These collections were selected on the basis of their size, the quality of documentation and the number of garnets. The greatest and least dimensions of the stones, rounded to the nearest millimetre, were compared. The calculations included all chalcedony varieties as well as garnet and other miscellaneous stones such as lapis lazuli, haematite and turquoise.

Graph 1 shows that the peak distribution of the greatest dimensions for Late Roman stones occurs at 12 mm, while that of Sasanian stones is at 10-11 mm. This may not appear to be a large difference, but there are clearly more large Late Roman intaglios than Sasanian. This is best seen on a cumulative percentage distribution graph (Graph 2). 54% of the total of the Sasanian stones are 11 mm or less, as compared with only 33% of the Late Roman. This difference is statistically significant at the 1% level. In contrast the distributions of the least dimensions are extremely similar; again this is best seen on the cumulative percentage distribution (Graphs 3 and 4). All of these stones are oval or circular in shape, but the Sasanian stones have squatter, more equal dimensions than the more elongated Graeco-Roman stones.

These percentage graphs indicate that the size differential between the greatest dimensions of the stones in these groups is statistically insignificant, and the differential between the least dimensions is so small as to render them almost identical. It could be suggested, therefore, on the basis of size alone, that these represent similar technological traditions. This is not surprising as Sasanian ring-stones, like the Greek and Roman intaglios that preceded them, tended to be ground within a relatively restricted range of sizes to fit the human finger. The
comparisons certainly suggest that there was a minimal acceptable size for intaglio engraving in both traditions, which fell between 8 and 11 millimetres.

If the Sasanian quartz varieties and other miscellaneous stones (turquoise, lapis lazuli, goethite and haematite) are statistically compared by the same method to the Sasanian garnet stones alone in the British Museum collection, two differences are immediately clear (Graphs 5-8). The size ranges, although superficially similar on the curve, are statistically different in both the greatest and least dimensions. The garnet seal stones are consistently smaller than the other varieties.

Although Graph 5 shows that the greatest dimensions of the chalcedonies and garnets both peak at 11 mm, Graph 6 shows that the chalcedonies are in fact slightly larger (eg 49% are 11mm or less, compared with 65% of the garnets). This difference is just significant at the 5% level. Graphs 7 and 9 show that the least dimensions of the chalcedonies are also greater than that of the garnets (eg 35% being 9mm or less compared with 63% of the garnets).

It is possible, therefore, that the addition of the garnet stones to the Sasanian group is one factor which reduces the overall size of those stones relative to the Graeco-Roman intaglios. The smaller size of the garnet stones may be due in part to the relatively smaller crystalline growth habit of the garnet species. The relatively small size of many garnet stones may reflect a specific source, although it is impossible to speculate where that might have been located (Appendix I).

Natural crystal size is not a limiting factor in the working of quartz varieties, as both microcrystalline quartz (chalcedony) and macrocrystalline quartz (rock crystal, amethyst) can grow to very large sizes. Fashion or prestige occasionally dictated the polishing of an oversized ringstone in these materials.

Garnets, while known to grow to large sizes, only rarely were ground as either cabochon ring-stones or cloisonné plates in sizes above 15 mm. Some large Kushan and Kushano-Sasanian intaglios are the exception to this rule (Göbl 1967;
Bivar 1968), as are the occasional Roman Republican Period intaglios possibly engraved for collectors (Maaskant-Kleibrink 1978, 365, 367-8, no. 1158). Of course, any large cabochons may also have been kept aside for individual settings in jewellery (for example on the eagle *fibula* from the Pietroasa treasure, Appendix V).

In garnet cloisonné settings it was not until the second half of the fifth century that extremely large plates were set in cloisonné. With average sizes ranging 21 x 19 millimetres, these must be regarded as hallmarks of expensive objects. Unfortunately all of the surviving objects with plates this size are extensively damaged (Appendix V).

**Sasanian Bezels and Late Antique Cloisonné Plates**

Whatever its precise origins, it is clear that Sasanian gemworking in the form of ringstone and stamp seal intaglios thrived for centuries under Persian patronage, while such technology for the most part died away in the Late Antique and Early Byzantine Empires, largely replaced, it may be suggested, by garnet cloisonné production.

Not only is the Sasanian tradition of preparing garnets for seal stones chronologically compatible with the rise of Migration Period garnet inlaying, but some lapidary techniques associated with Sasanian stones may be related to those from the fifth-century Roman Empire. The patterns engraved on the surface of some early Migration Period garnets are, for example, similar to those appearing in the Sasanian stamp-seal corpus. There are at least three specimens of kidney-shaped stones in Western collections decorated with spiralling concentric circles. These are usually presumed to have come from southern Russia (Arrhenius 1985, 52-3). Similar spirals are worked on the shoulders of some highly decorated
ellipsoidal stamp seals from the Sasanian Period (Bivar 1969, 22, 26, 63-4, 143, nos AB10, CC1, CD1). All of these are datable to the fourth century, although, as noted above, they are always in materials other than garnet.

There are, in addition, Sasanian chalcedony seals in the British Museum collection, two unpublished, whose hoops are engraved with parallel grooves (Bivar 1969, 143, HE12; British Museum nos OA 1601/135002 and 1600/136001). In the case of the first two seals, these grooves radiate from either side of a median groove in the manner of the ribs of a leaf. On the third, curved parallel grooves form the decoration. The first examples may be compared to the carved garnet stones preserved on the Hunnic diadem from Verkhne-Yablochno (Zasetskaya 1975, 35). The curved barley-stick grooves are paralleled by carved enamels on a ring from Tomb 40 at Armazis-khevi in Soviet Georgia, as well as the carved garnet bars employed in the Cabochon Bar and Carpet Styles (Apakidze et al. 1958, 133, pl. xiii.7a; Cat. nos 117-18, 147, 149, 153, 157, 179).

It now remains to compare the Sasanian garnets to garnet plates from a cloisonné pattern. The cloisonné garnet plates that were chosen for comparison are all mounted in objects from the Kerch finds, and are all geometric plates set in the Unit Cell Styles as defined in Chapter III. Table III lists the garnet plates included, all of which were measured by the author from the actual objects. The measurements were made with digital callipers, recording the greatest and least measurements of each stone. Unlike much later cloisonné, some of the stones are somewhat freer of their surrounding cell walls, rendering these measurements as accurate as possible. In many cases, however, they are somewhat obscured. To compensate for the possibly greater dimension, the shaded area of Graphs 9 and 11 allows an extra millimetre in dimension.

Accuracy of measurement was not a complicating factor in the Sasanian garnet bezels in the British Museum collection. With only three exceptions, all of
the Sasanian stones included in the calculations were unmounted. Bivar's published dimensions were rechecked by the author using digital callipers.

Graphs 9 and 11 demonstrate that Sasanian garnet bezels are not statistically comparable with the garnets preserved at Kerch. This is primarily because the peak of the greatest dimensions of the Kerch stones show a strong peak from 8-10 mm, as opposed to the Sasanian garnets, whose greatest dimensions peak around 11 mm, and are still common up to 14 mm. The cumulative percentage graphs 10 and 12 reveal 60% of the total garnet plates at Kerch fall at 9 millimetres with 76% of the smallest plates at 8 millimetres or less. This may be contrasted with the larger Sasanian stones, with 65% of the total of the larger dimensions of the bezels at 11 millimetres and 42% of the smallest dimensions at 42%.

It is difficult to know exactly how to interpret this information, as the Late Antique sample from a single site is arguably not as representative as the Sasanian sample from a museum collection. One possible explanation is that, as garnet stones were sorted, either in various workshops or by traders, at this period the larger stones were reserved for intaglios while the smaller were incorporated as cloisonné inlays. The consistency of so many stones ground to a similar size suggests that the stones from the fittings were either produced in a single workshop or by artisans trained in the same tradition.

As regards the possible sorting of stones by sizes, a similar situation may have prevailed in the Roman period. A series of Roman Period necklaces with tabular and rhomboid-shaped garnet beads measured by the author revealed maximum diameters of 5 to 8 mm. These beads, like many of the garnet plates from Kerch fall at the low end of the size range generally acceptable for intaglio carving in the Greek, Roman and Sasanian Periods. As reviewed in Chapters One and Three the circular and rhomboidal shapes of these beads are the same shapes which
characterise the Unit Cell and Mosaic Styles of inlaying represented at Kerch in the Crimea.

The above calculations suggest that there was some sort of continuity between the Late Roman and Sasanian lapidary traditions with regard to intaglio grinding. If it is assumed that many of the garnet stones set in both the Sasanian and Late Antique/Early Byzantine Period came from India and passed through Sasanian-held territory, it seems probable that in the fourth and early fifth century the larger stones were reserved for intaglio engraving.

This may not have been the case by the middle of the fifth century when larger stones begin to appear in garnet cloisonné. The rhomboids in the Notched Plate Style, for example, measure 11 x 12 or 11 x 9.5 millimetres on such objects as the Pannonhalma hilt, the Tournai mouthpiece and the Gourdon paten. In terms of greatest dimensions, these are comparable not only to the Sasanian bezels, but also begin to approach the size of the Hellenistic garnet intaglios carved centuries before whose greatest dimensions peak at 12 and 14 millimetres and least dimensions at 11 millimetres.

NOTES

1. I am grateful to Mr Clive Orton, the Institute of Archaeology, London, for his assistance with the preparation of these graphs and the statistical comparisons made here. The statistical method used was the Kolmogorov-Smirnov test.

2. A total of seventy garnet beads of tabular shape were measured, from three different necklaces. Two necklaces are held in the British Museum collection, in the Greek and Roman Department (nos 1959,7-16,17 and 1972,6-4,668, the latter published by Marshall 1969, no. 2714) and one in a private collection, London. The average diameter of the ten beads on the former British Museum necklace was 8.4 mm; the average of the thirty-six beads on the second necklace was 5.0 mm. The twenty-fours beads of the London necklace had an average size of 6.5 mm. Sixteen flat rhomboidal beads on another necklace in the British Museum (no. 1972,6-4,663; Marshall 1969, no. 2700) also had an average greatest dimension of 8.0 mm.
<table>
<thead>
<tr>
<th>Collection</th>
<th>Period</th>
<th>Quartz &amp; Other Varieties</th>
<th>Garnets</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Stones</td>
<td>% of Total</td>
<td>No. of Stones</td>
<td>% of Total</td>
</tr>
<tr>
<td>Munich</td>
<td>Greek Classical</td>
<td>103</td>
<td>99.04%</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Greek Hellenistic</td>
<td>209</td>
<td>76.84%</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>Republican Imperial</td>
<td>272</td>
<td>99.63%</td>
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<td>Late Roman (after 2nd</td>
<td>471</td>
<td>98.54%</td>
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</tr>
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<td></td>
<td>century AD</td>
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<td>100.00%</td>
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<td></td>
<td>Greek Hellenistic</td>
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<td>66.67%</td>
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<td>Roman Republican</td>
<td>365</td>
<td>98.92%</td>
<td>4</td>
</tr>
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<td>Roman Imperial (to end</td>
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</tr>
<tr>
<td></td>
<td>of 3rd century AD</td>
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<td></td>
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</tr>
</tbody>
</table>

* Includes all materials

1 Brandt 1968; Brandt and Schmidt 1970; Brandt, Krug et al. 1972
2 Maaskant-Kleibrink 1978
### TABLE II

**Percentages of Garnet Stones in Collections of Sasanian Seals**

<table>
<thead>
<tr>
<th>Collection</th>
<th>Quartz Varieties</th>
<th>Garnets</th>
<th>Other*</th>
<th>Total</th>
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</thead>
<tbody>
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<td></td>
<td>No. of Stones</td>
<td>% of Total</td>
<td>No. of Stones</td>
<td>% of Total</td>
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<tr>
<td>British Museum¹</td>
<td>1644</td>
<td>81.11%</td>
<td>92</td>
<td>11.59%</td>
</tr>
<tr>
<td>Hermitage²</td>
<td>1688</td>
<td>85.57%</td>
<td>57</td>
<td>7.69%</td>
</tr>
<tr>
<td>Private Coll.³</td>
<td>413</td>
<td>87.50%</td>
<td>31</td>
<td>6.57%</td>
</tr>
</tbody>
</table>

*Haematite, lapis lazuli, turquoise, jadeite, etc., excluding glass & metal.

¹Bivar 1969
²Borisov and Lukonin 1963
³Gignoux and Gyselen 1982
Table III
Garnet Plates Measured from Kerch Objects

<table>
<thead>
<tr>
<th>Objects</th>
<th>Shapes of Stones</th>
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<td>Cat. no. 33</td>
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<td>7</td>
</tr>
<tr>
<td>(one of four measured)</td>
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<td></td>
</tr>
<tr>
<td>Cat. no. 34</td>
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</tr>
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<td>Cat. no. 36</td>
<td>beans, circles</td>
<td>4</td>
</tr>
<tr>
<td>Cat. no. 37</td>
<td>hearts, circles</td>
<td>10</td>
</tr>
<tr>
<td>(one of two measured)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cat. no. 38</td>
<td>beans</td>
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</tr>
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<td>Cat. no. 41</td>
<td>diamonds</td>
<td>5</td>
</tr>
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<td>Cat. no. 42</td>
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<tr>
<td></td>
<td>circles, large</td>
<td>4</td>
</tr>
<tr>
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<td>Cat. no. 44, 45</td>
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</tr>
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<td>Cat. no. 46</td>
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</tr>
<tr>
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<tr>
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<td>beans</td>
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<td></td>
<td>Total</td>
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305
GRAPH 1
Comparison of Greatest Dimensions

GRAPH 2
Cumulative % Greatest Dimensions
GRAPH 3
Comparison of Least Dimensions

GRAPH 4
Cumulative % of Least Dimensions
GRAPH 7
Comparison of Least Dimensions
Sea. Cheilocentra and Sea. Gerneta

GRAPH 8
Cumulative % of Least Dimensions
Sea. Cheiloc. and Sea. Gerneta
GRAPH 9
Comparison of Greatest Dimensions

GRAPH 10
Cumulative % Greatest Dimensions
GRAPH 11
Comparison of Least Dimensions

GRAPH 12
Cumulative % Least Dimensions
APPENDIX IV

A Note on Weaponry and Military Attire
in the Eastern Roman Empire

The history of weaponry and military attire in the Late Antique and Early Byzantine Periods in the Eastern Empire remains to be written. This can serve only as a brief review of some forms of high-status weaponry and ceremonial regalia such as belt buckles, fibulae and arm-rings which are preserved in the archaeological record. Objects in these categories were either ornamented with garnet cloisonné or found in contexts associated with high-quality cloisonné. The weaponry types reflect eastern styles introduced through Sarmatian or Hunnic intermediaries or through direct contacts with the Parthian and Sasanian empires. The modifications of the fittings of the Roman spatha that occurred in the third and fourth centuries form a convenient starting point for this review.

Spatha and Seax Fittings (Guards, Scabbard Slides and Beads)

The suspension of a spatha or longsword by means of a single scabbard slide and sword bead, attached to a waist belt, is a method developed in East Asia and refined in Sarmatian and Parthian weaponry, from whence it spread into the Roman Empire (Werner 1956, 26-43; Trousdale 1975, 285). The Romans probably learned of the scabbard slide from the Parthians in the first century AD (one is depicted on Trajan’s column) (Ginters 1928, pl. xxxii.b). Ivory scabbard slides were excavated in second-century AD levels at Khisfine near Damascus, Syria which are comparable to stray finds from Bulgaria and Denmark (Trousdale 1975, 103-8).
It is regrettable that some recent publications retain the term "magic swordhanger", coined by Werner in 1956, for the beads accompanying scabbard slides; one reconstruction depicts one hanging loosely from the side of the sword (Werner 1956, 26-37; Menghin 1987, 104, 308-9). Although their employment altered over time, early sword beads, as Evison proposed, were purely functional items (Evison 1967, 64). A thong attached to a waist belt by tabs and/or buckles was threaded through the bead and a scabbard slide. Aided by a small buckle the thong could be used to adjust the angle of the sword against the body, canting it forwards or backwards.  

In European and Russian finds of the Hunnic and post-Hunnic Period, there are several examples of scabbard slides and beads, some ornamented with garnet cloisonné (Cat. nos 46, 56, 131, 140). By the middle of the fifth century, however, single scabbard slides in the West seem to co-exist with small double scabbard slides which appear to be a western development from Scandinavian types (Menghin 1983, 110, 340). The single scabbard slide with a bowed centre preserved at Apahida II has no parallels (Cat. no. 158).

Longswords with broad, wide guards were also probably a Sarmatian/Sasanian type. Broad guards are depicted on swords worn by mounted horsemen on tombstones preserved in the Crimea, dated to the first and second centuries AD (Von Kieseritzky and Watzinger 1909, 113-14, 120, nos 633, 640, 669-70, 683, 703, 725, pls xlv, xlv, xlvii). Longswords in archaeological contexts in the Sarmatian Period, however, are found without guards, so it is impossible to reconstruct early forms or to verify the representational evidence.

The Sasanian rock reliefs at Bishapur, Iran (datable to the third and early fourth centuries), depict similar guards, together with scabbard slides (Trousdale 1975, 89-91, figs 67, 69, 72-3). Broad guards appear on Kushan and Chionite Hephthalite sculpture in Afghanistan while both Sasanian and Hephthalite silver
plates and bowls provide a series of representations of longswords with broad guards, some of which are decorated (Trousdale 1975, 75, figs 54, 61; Harper 1981, 53-4, 74, fig. 44, pls 10, 13-26, 29, 32, 34-6). As such swords were worn on the left side of the body and the plates generally depict horsemen facing left, the means of suspension is rarely shown. One or two plates, however, reveal both a longsword and its scabbard slide (Harper 1981, pls 10, 14, 19, 37). Some of these may be as early as the fourth century (Harper 1981, 133, 197, pls. 13, 37), but most date from the fifth to sixth centuries.

Supporting representational evidence for the development and appearance of military swords in the Late Antique and Early Byzantine Periods is even more elusive. The guard is hidden on the sword carried by the emperor on a fourth-century silver plate from Kerch, which appears to depict actual rather than idealised attire (Comp. pl. 8.1; Chapter Three).

The representation of a sword beside a defeated barbarian family on the ivory diptych of Flavius Constantius suggests a guard of the shape and scale of the cabochon guards; this is datable ca AD 416 (Delbrueck 1933, 29, pl. 108). At the base of the missorium inscribed to the largitas of Valentiniani Augusti, a longsword with a wide guard and long hilt has what appears to be a waist belt attached to its side, perhaps with a sword bead (Delbrueck 1933, 179-82, pl. 79). Whether ascribed to Valentinian I (AD 365-75), II (AD 375-92) or III (AD 425-55), the parallels between the shield decorations on the bowl and those depicted in the Notitia Dignitatum confirm that these are representations of actual weaponry (Baratte and Painter 1989, 271-2, fig. 236).

Likewise there would seem to be no reason to doubt the accuracy of a mid-fourth to mid-fifth-century mosaic representing David, excavated in the synagogue at Meroth, Israel, depicting a long sword with a broad guard, a single long scabbard slide with a belt or baldric, together with a helmet of Roman army type.
On imperial ivory diptychs from the early fifth century, Stilicho is depicted with a longsword on a scabbard slide suspended from a sword belt, while the Emperor Honorius is shown on the Probus diptych with both his seax and spatha suspended on baldrics (with a rather vague scabbard slide indicated on the spatha) (Comp. Pl. 7.1). The slide worn by Stilicho resembles types datable to the second half of the fourth century from Scandinavia (Trousdale 1975, 226-9). He also wears a crossbow brooch with a scrolled footplate, similar to one found in the hoard of high-ranking military objects at Ténès, Algeria (Heurgon 1958, 21-9, pls ii.1,2, ix).

Several Sasanian silver plates also depict both a longsword and a short sword (Harper 1981, 63-4, 74-5, pls xi, xv, 16, 24). This particular combination of weapons was not a nomadic one, and may represent the influence of Sasanian styles upon the Eastern Roman Empire and surrounding regions (Kazanski and Périn 1988, 22-23). Kazanski and Périn have charted the archaeological distribution of this combination of swords, concentrated in Soviet Abkhazia and the Rhineland, with a few outliers in central and eastern Europe (Kazanski and Périn 1988, 27-8, Map 2). Of the European sites on their map, five of the twelve which fall within Menghin’s Zeitgruppe A emerged in conjunction with high-status garnet cloisonné, as did two of the six from Abkhazian sites. Sword beads were preserved at eight of the European sites. Cabochon Bar Style sword guards survived at the two Abkhazian sites, as well as at Altlussheim; the Ermihalyfalva and Pleidelsheim graves preserve sword mouthpieces related to Cabochon Bar and Stepped Rhomboid types; and Pouan, Blučina, Tournai and Rudern preserve high-quality cloisonné in the Carpet Style.

The linkage between these forms is therefore clear, as is the fact that owners of these weapons had access to some of the best ornamental cloisonné produced.
in the late fourth and fifth centuries. It might also be suggested from this
evidence that longswords with wide guards, such as those decorated in the
Cabochoon Bar Style, had a broader distribution within the Roman army and its
allies than archaeology can attest.

\textit{Fibulae, Rings, Arm-rings and Shoe Buckles}

In addition to the weaponry types cited above, a few high-status graves from
the second and post-Hunnic Periods preserve crossbow \textit{fibulae}, gold arm-rings
with expanded terminals and sets of shoe buckles. Crossbow \textit{fibulae} such as the
gold examples at Tournai and Apahida I represent imperial gifts to ranking civil and
military officials in the Roman and Byzantine bureaucracy (Belyaev 1928a, 105 ff;
Kovrig 1937, 127; Noll 1974b; MacMullen 1962, 161-4). Produced in state
factories, these secured a \textit{paludamentum}, a specific type of soldier's cloak worn
by civil and military officials alike, together with their belt buckle and \textit{cingulum}
(belt) of office (MacMullen 1962, 162; Pharr 1952, 576). The base or precious
metals of these \textit{fibulae} are generally considered a guide to relative status of the
individuals.

Such \textit{fibulae} may imply that these men had some degree of Roman authorised
administrative and/or military control over the populations in the areas in which
they operated (MacMullen 1962, 162). Recent research suggests that Childeric,
the Frankish leader presumed to be buried at Tournai, was responsible for the
province of \textit{Belgica Secunda} (E. James 1988a, 71; 1988b, 9-12). The official
position, if any, of the man buried at Apahida I is less easy to define, although he
was at least of equivalent status to Childeric. The surviving \textit{fibula} from the
Apahida I grave is of the highest quality, its foot decorated with a classical vine-
scroll and a Christian cross in pierced goldwork.
The Tournai grave also contained a seal ring engraved with a frontal bust of a warrior with a spear and long hair, inscribed CHILDERIC REGIS. The presence of personalised rings in the Pouan and Apahida I graves (the ring from Apahida I was inscribed with the name OMARUS and the Pouan ring with the name HEVA) likewise imply familiarity and identification with status jewellery of the literate Roman world. The fact that the names themselves are Germanic in origin (Werner 1967-68) is no surprise given the heavily barbarian component of the higher ranking military officers.

Gold arm-rings with thickened terminals, as well as gold torques, reflect the combination of eastern and western features that characterise the attire as well as weaponry of this period. Arm-rings with thickened terminals are depicted, together with other Roman dona, on military grave reliefs from the first and second centuries AD (Maxfield 1981, fig. 9, pls 6a, c, 7b, 8a, 11c and b, 13a, 14b). Records of these military gifts cease after the early third century AD, when they were replaced with monetary donatives (Maxfield 1981, 253-4); it may not be coincidental that the archaeological record of gold arm-rings with thickened terminals in Europe begins just at this time (Werner 1980, 14-22). Whether the deposited items represent actual Roman donatives or Germanic imitations of these is difficult to determine. Germanic imitations of another donative form, the snake-headed arm-ring, also appear in the records at this same time (Werner 1980, 14).

The fact that the type of arm-ring preserved in the male/female grave at Petrijanec, Yugoslavia (Noll 1974a, 62-3, pl. 40), appear on a centurion’s grave relief of the Flavian Period (late first century AD), together with other Roman dona (Maxfield 1981, 91, pl. 6b), suggests that, although donative practices may have altered, the forms never died out completely. This late third- to early fourth-century deposit also contained a pair of gold crossbow fibulae, linking these two forms together.
Some sort of revival of personal donative objects, in addition to brooches and silver plates, had taken place by the middle of the fourth century. The combination of gold crossbow fibulae, belt fittings and bracelets worn by the officer whose goods were recovered in the Ténès hoard attests to this (Heurgon 1958). Ammianus mentions donative crowns, and Aetius, magister militum of the armies in the Western Empire, received dona (donis militaribus ornatus) for his campaigns in Gaul in AD 435-6. It is not until the sixth century, however, that there is concrete textual evidence of arm-rings and torques per se. Procopius records that Belisarius granted armillae and torques as rewards to his soldiers on the Italian campaign of AD 535-40 (Maxfield 1981, 251-2).

Torques such as the Pouan type, with a thin hoop, circular in section, and a hooked clasp, have a wide distribution from Germany across Europe and South Russia to Siberia in the Hunnic Period (Keller 1967, 116-17, fig. 4). In general these would seem to represent lesser status and/or chronologically older deposits. Other torques, such as the one with a repoussé gold sheet backing and Latin inscription found at Rhenen, Netherlands, would seem to represent imperial Roman types and probably production as well. Parallels appear on the obelisk of Theodosius I (AD 390) and the missorium of Theodosius (AD 388).

A crossbow fibula and a torque similar to the Pouan example were found in the hoard in a vessel from Stercevo (Starcova), Yugoslavia (Noll 1974a, 69-70). Only one other grave preserves both an arm-ring and a crossbow fibula as at Tournai and Apahida I. Grave 1 from Ostrovaný (Ostropataka), Czechoslovakia, contained a crossbow fibula with a pierced foot, an onyx fibula of imperial type, a gold arm-ring and gold torque, both with thickened, closed terminals decorated with wrapped wire. The late third- (Werner 1980, 18-19) or early fourth-century date (Noll 1974a, 66-7), suggested by an aureus Herennia Etruscilla (AD 248-51) in the adjacent Grave 2, which held a gold torque and gold finger-ring, is probably too
early. There were stamped silver gilt fittings from a hard saddle in the second grave, characteristic of the second Hunnic Period and its aftermath in Europe.

There is no direct historical reference to confirm that arm-rings or torques, like crossbow *fibulae*, were produced under the auspices of the financial institution of the *sacrae largitiones*. The fact that fifth-century arm-rings with thickened terminals (unlike the earlier examples) appear to have been manufactured in multiples of *solidi* (Werner 1980, 6), in the same fashion as Roman donative medallions (MacMullen 1962, 162), however, supports the hypothesis of their continuation or revival as standardised, official military paraphernalia. There may, of course, have been imitations of these, but the ones that concern us here, the heaviest, always found together with cloisonné, may best be interpreted as official gifts and/or regalia intimately connected with Roman authority.

In addition to his *spatha* and *seax*, arm-ring and possibly finger-ring, the higher-ranking employee in the *militia* would certainly have worn an elaborate belt and possibly shoe buckles. The history of military *cingula* in the Roman Period is well documented. The *Codex Theodosius* makes it clear that in the Late Antique Period the *cingulum* or girdle of office was the most important civil and military badge, used metaphorically, as MacMullen noted, to mean "official position" (*Cod. Theo.*, 8.1.11, 8.4.16, 8.4.23, 8.4.29, 9.38.11, 10.20.14, 10.26.1, 11.20.4, 12.1.147; MacMullen 1963, 179-80). Abuse of position in the *militia* or imperial service warranted the stripping of one's belt. The Ténès find gives some idea of one type of top-ranking military belt buckles in the late fourth century, again with parallels in the surviving depictions of the products of the *Sacrae Largitiones* in the Western Empire (Heurgon 1958, 37-9). The law in the *Codex Justinianus*, cited above (Chapter Three, footnote 9), forbids the use of jewels on buckles, providing that buckles "valuable only for the gold of which they are composed, and their workmanship, shall be used on military cloaks" (*Cod. Just*. xi.xi.i). Again, while
we presently have no evidence to prove that heavy waist buckles ornamented with cloisonné, such as those preserved at Apahida I and II, were Late Antique or Early Byzantine cingula buckles, the possibility cannot be dismissed.

The possible appearance of one type of official cingulum might be deduced from the belt now in the Getty Museum, Malibu, California. This is set with fourth-century solidi on square links flanking a central clasp in Medallion Style with green glass around individual gems (JPGMJ 1984, 59). This may be compared, for example, with the type of belt worn by imperial figures on fourth-century coinage (a good enlargement in Heurgon 1958, pl. xix.3).

Finally, the men at Pouan, Blučina, Tournai, and Apahida I and II wore pairs of ornamented shoe buckles. These, like the swords, were ornamented with garnet cloisonné. The origin of shoe buckles has never, to my knowledge, been explored. Round shoe buckles at the ankles, secured by straps, appear on Sarmatian, Kushan and Parthian footwear, worn with loose trousers, ranging in date from the first to third centuries AD (Sarianidi 1985, 42-3, 246, no. 1; Colledge 1986, pls xv.b,c,d, and xxxi.a). Closer parallels to the type of fifth-century fittings are the set of buckle loops, tabs and strap ends from Burial no. 3 at Tillya-tepe in Afghanistan, found together with golden shoe soles (Sarianidi 1985, 33, 240, 242-3, no. 34). These are presumably datable in the first century AD, although what relationship they bear upon Migration Period style, as with the inlaid ornaments from the same site, cannot be determined.

The mid-fourth-century plate from Kerch depicts soft-soled shoes which must have buckled; the Sasanian elements of this costume have been noted in Chapter Three. Fifth-century ivory diptychs and imperial silver from the Late Antique Period invariably represent similar low slippers, with bosses and flowing ties securing straps which cross at the front of the foot (Delbrueck 1933, pls 95-8; Volbach 1976, pls 2,2, 3.6). On the diptych for the magister militum Stilicho,
however, shoes of a different sort are depicted. These appear to have a distinct heel and a toe guard of some sort, fastened by a boss at the inner ankle (ca AD 400; Volbach 1976, 55-6, l. 35.63). The laws issued by Arcadius and Honorius in AD 397 and 399 against the wearing of boots and trousers in the City of Rome suggests that it was around this time that barbarian costume penetrated into the Western Empire. Indeed, it might be inferred from the rather shocked tone of the notice that men other than barbarians had adopted such clothing.

As with certain forms of swords, two avenues of introduction into the Roman Empire seem possible - either through Sarmatian/Hunnic intermediaries or through the Parthian/Sasanian styles in Western Asia. In favour of the first interpretation is the fact that the first clear evidence of shoe buckles in the archaeological record appears in the second Hunnic Period. The fact that many of these are decorated with extremely high-quality cloisonné, however, would suggest that the second route of introduction, from Sasanian Persia into the Eastern Empire and thence to Europe, might indeed have been the case. A system of split straps similar to that proposed for the Blučina buckles is paralleled by shoes depicted on Sasanian plates (Menghin 1987, exhibition drawings; Harper 1981, pls. 16, 18-20, 22, 27).

NOTES

1. Although the scabbard slide was apparently first developed to suspend ceremonial longswords in the Han Period in China, Trousdale would confine the use, and possibly the invention of, sword beads to the Aorsi and Alanic confederacies among the Late Sarmatians. These particular groups may have been related to the Kushan tribes settled in northern India and present-day Pakistan. In the complete absence of actual objects from Kushan, Parthian and Sasanian contexts, this assertion cannot be accepted without reservation.

2. This is attested to by a scabbard slide with a perforated green stone disc and a small buckle resting against the upper right edge of the slide aperture at Kurgan D16 in the cemetery at Alt-Weimar on the lower Volga, excavated by Rau in 1927 (Werner 1956, 101, pl. 38; Trousdale 1975, 110-11). Its owner had a formed skull. The burial may be dated to the late Sarmatian Period, that is the third to fourth century AD.

3. As with the torques absorbed by the Roman army from barbarian traditions (Maxfield 1981, 23-4, fig. 9), the arm-rings with thickened terminals may be barbarian objects drawn into a standardised, official production. Sarmatian and Kushan antecedents are known from the first and
second centuries AD from sites such as Tillya Tepe, Afghanistan (Sarianidi 1985 235.33, 252.4, and 256/16 (anklets); 238.17 (bracelets); 249.21 (armlets); Kazanski and Pépin 1988, 23-4, fig. 9). Whether and how these might have impacted the development of the type in Roman Europe remains unclear.

4. Arguments by Werner and others that these represent a long and uniquely German tradition should probably be amended. Such arm-rings more probably represent a tradition of Roman military forms in which the Germanic tribes participated. The earliest arm-ring above, in a male grave at Himlingøje, Denmark, dates from the first half of the third century (Werner 1980, 10-12, 15, 28).

5. "Within the venerable City no person shall be allowed to appropriate to himself the use of boots or trousers. But if any man should contravene this sanction, We command that...the offender shall be stripped of all his resources and delivered into perpetual exile" (Cod. Theo. 14.10.2, posted in Rome at the Forum).
One test of any classification system is the degree to which it can be successfully applied to new discoveries or problematic objects. The former of course must wait, but the latter can be attempted here. The classification of gold and garnet cloisonné established here does not aim to be comprehensive. It does, however, establish guidelines, and accordingly, sheds light on some of the more perplexing examples of Migration Period and Early Byzantine garnet inlaying. These are the objects from the Pietroasa treasure and the shield rim recovered from the banks of the Sârviz river, whose damaged condition limits what can be said of them. Those pieces which cannot be classified in the Carpet Style hint at a further "Architectural Style" of cloisonné which may represent an even higher status level.

The Pietroasa Treasure

The unhappy background of the discovery, dismemberment, acquisition by the Romanian government, European exhibition, theft, further destruction, recovery, Russian sojourn, and eventual display of the Pietroasa objects in Bucharest has been thoroughly told elsewhere and need not be repeated here (D. Brown 1972, 111-12; Wolfram 1985, 56-62). Interpretations of the date, ownership, and origin of the pieces have varied, with most authors arguing for a date in the later fourth century, Gothic ownership and a mixture of Germanic, Eastern Roman and "Oriental" connections in the style and techniques of the objects themselves (the
older literature reviewed in Harhoiu 1977, 3-6).

It is a testament to the progress in Migration Period studies and in the study of garnet cloisonné that the long-accepted fourth-century date and Gothic attribution for the Pietroasa treasure has been challenged on secure grounds (Horedt 1969, 1972; Harhoiu 1977). A brief summary of Harhoiu’s conclusions regarding the surviving objects is useful here. The gold plate and ewer fall within late Eastern Roman traditions from the second half of the fourth century, but were probably products of local ateliers. The Germanic/Hunnic torques have a longer chronological span from the middle of the fourth to the middle of the fifth century. The *fibulae* belong to the early fifth century by virtue of their crossbow form (Keller’s Group 6), and are of a type represented from the mid-fourth to the first quarter of the fifth century. In general Harhoiu felt that the Pietroasa material belonged within the Untersiebenbrunn-Coșovenii de Jos horizon, which at the time he wrote was accepted as ranging from the end of the fourth to the beginning of the fifth century.

At the same time Harhoiu’s simplified chronology of groups of the "polychrome style" led him to conclude that certain features of the Pietroasa find argued for a deposition date in the middle of the fifth century, despite the fact that this was not wholly supported by his other comparisons. Since he wrote, however, research and scholarly opinion has tended to revise upwards the chronology of both the Untersiebenbrunn horizon and Keller’s crossbow brooch typology. Current chronologies now date the Untersiebenbrunn horizon to the second quarter of the fifth century (Tejral’s Horizon D2, ca AD 410/420-450), which greatly strengthens many of Harhoiu’s assumptions.

New discoveries such as the large garnet plates from Husby Långhudra, Sweden (Chapter Six), combined with the classifications in this study, also expand the context into which the Pietroasa treasure may be placed. Several factors
support production dates in the fifth, and deposition dates in the mid-fifth century or even later for the garnet-inlaid ornaments and vessels. These objects present a mixture of techniques whose range serves as a reminder of how much is missing from the archaeological record of garnet cloisonné. At the same time the extensive restoration of the majority of the inlaid pieces enforces a great deal of caution on any interpretation of those objects and accounts for their inclusion in an appendix to this study.

The Pietroasa Fibulae

The collar from the treasure, discussed in Chapter Three, alternates Unit cell and Mosaic Style I panels and is thus stylistically related to material currently assigned to the first Hunnic Period (Cat. no. 48). To what extent this may be used as a chronological indication is difficult to determine, as its actual method of construction, in the second class of framework cloisonné, may be associated with cabochon bar sword guards and Mosaic Style II objects, broadly assignable to the second Hunnic Period and later. A range of possible production and deposition dates from the late fourth to the middle of the fifth century must therefore be admitted for the collar.

Closest to the collar in style is the single eagle/falcon fibula, whose original appearance was convincingly reconstructed by Brown, with the head reversed 180 degrees from its present position (Cat. no. 175; Colour Pl. XI.1; Pl. 22.3; Brown 1972, 113-14). The thick gold sheet forming the neck is chiselled with an openwork pattern of vertically linked hearts, similar to those on the collar, but reversed in the manner of running hearts in Early Byzantine and Sasanian decorative traditions. The openings appear to have held the stones suspended à jour like the cups from the find. The back of the bird retains only very badly
crushed cells with a few inlays. The present reconstruction includes two heart-shaped cells with semi-circular notches in the sides, also similar to those reconstructed on the octagonal cup. Such plates have parallels in the second phase of Mosaic Style I from the second Hunnic Period (Chapter Four). The wing tips were clearly executed in feather-shaped cells characteristic of Mosaic Style II, again suggesting a date after the second quarter of the fifth century.

The bodies of the single and paired bird *fibulae* are constructed in an expensive variant of the cement and gold sheet technique, sandwiching the stones between two layers of very gold sheet, the top chiselled to accommodate the stones, with a thin layer of organic paste securing them (Cat. nos 176-7; Pl. 22.1, 23; *Colour Pl. XI.2*). The comma-shaped plates, drilled with ring and dot motifs, are at present unique in the repertoire of garnet plate shapes. Tear-drop-shaped plates, however, appear on one pair of *fibulae* from Simleul-silvaniei (Szilágy-Somlyó) (Cat. no. 70) and a small belt buckle from Komarom, Hungary (Kidd 1990a, pl. 12.1). The Chernyakov culture *fibulae* must be dated to the middle of the fifth century or later (Chapter Four), while the sword from the Hungarian grave falls in Menghin’s *Zeitgruppe* B (ca AD 480-520; Menghin 1983, 127, 352). The buckle, like the Pietroasa *fibulae* bodies, is constructed with a cut-out sheet of gold overlying the plates. The ring and dot foils on the latter piece have parallels in material conventionally dated to the last quarter of the fifth century.

On the paired bird *fibulae* the placement of two oval stones adjacent to one another to resemble a heart has parallels in other western and eastern Pontic jewellery. The material from Ostrov, Romania, discovered in 1949, included individual box settings (ear-ring elements or garment plaques?), some divided and set with two oval garnets in the shape of hearts (Michea and Florescu 1980, 779). The third-to fourth-century date suggested for Ostrov finds may be too early in light of the fact that the same device appears on earrings from Tomb 19 at Arma-
zis-khevi, Soviet Georgia (Fig. 97). On the basis of their similarity to cloisonné deposited in Europe these are probably datable from the second quarter of the fifth century onwards (Chapter Six). This would support a Pontic origin for the bodies of the fibulae, and not improbably, production on the western side of the Black Sea.

The horizontal hinge mechanisms of all the Pietroasa bird fibulae and the curving polygonal stem of the small fibulae, are comparable to those on the onyx fibula from Simleul-Silvaniei, which fall in Keller’s Group 6, which now would appear to be datable to the first half of the fifth century or later (Chapter Four). The use of glass pastes on the small Pietroasa fibula may also be compared with the Simleul-silvaniei agate fibula. The cylindrical casings at the top and bottom of the small fibula, originally set with rock-crystal cabochn bars find a close parallel in the Apahida II rectangular harness mounts (Pl. 20.6). In general the conception of this fibula may be compared with the Rebrin fibula in Mosaic Style II, which, it has been argued, dates to the second half of the fifth century and reflects the dissemination of Early Byzantine styles in the Roman provinces.

Fibulae with round bodies and high "necks" appear to be restricted to imperial representations, recorded from the period of Valens (AD 364-78) through the reign of Honorius (approximately AD 364-423), although later versions of this form also occur (Harhoiu 1977, 18; Belyaev 1929a, 110). As demonstrated in Chapter Three, colleted pins such as those on all three of these fibulae do not appear before the end of the first Hunnic Period in the archaeological record. What is curious about the construction of the small fibula is the presence of colleted pins between the body and cylindrical casings and along the neck of the fibula. The pins are loose in their fittings and, although snapped off at the rear, were presumably intended to be functional. This would seem to suggest that the ornament originally had a backing plate, present before the addition of the clasp system.
Although this interpretation must be advanced with caution, it seems possible that the clasp system, and the arched top piece were additions to an existing form.

Similar rows of pins appear along the necks of the bird fibulae, again snapped off on the reverse (Colour Pl. XI.2). These arguably could have been fastened to a gold or leather backing to stiffen and protect the frame, but whatever backing did exist has apparently been replaced by the clasp system which is integral with the heads of the birds. Even more than the small fibula, the various components of the paired bird fibulae appear incongruent with one another. The "tails" of the birds are ill-fitted against the oval bodies. Their sides seem to be imitations of the scrolled sides of the smaller brooch and, rather than being constructed of two layers of gold sheet like the centre, combine shared-wall cloisonné with cabochons. Here again it seems possible that the tails and catch plates with dramatic heads converted existing ornaments into their present bird forms.

In this light it is particularly interesting to note the results of spectrographic analyses of gold samples from the Pietroasa objects carried out by Dr. A. Hartmann at the Landesmuseum Stuttgart for Harhoiu. These revealed differing gold compositions between the central body portion and the crossbow hinge on the reverse of the small fibula. While this may mean only that the processing or origin of the two batches of gold used in the two areas of the fibula differed, it could also support the hypothesis advanced above. 2

The birds represented by these fibulae have been described as pigeons (De Linas, cited in Odobescu 1976, 77 (673)), eagles (Harhoiu 1977, 16-17), ibis (Odobescu 1976, 77 (673); Arrhenius 1985, fig. 34), or generic birds-of-prey. In fact a close examination of their physiognomy suggests that care was taken to represent a specific type of bird, which was probably a vulture. 3 Among birds of prey, only the vulture possesses both a long neck and a broad hooked beak with a marked cere (Comp. Pl. 13.2, 3).
The other prominent representations in fifth-century cloisonné of this species of bird are the saddle fittings at Apahida II, which again supports a date (at least for the heads) in the second half of the fifth century. Vultures have generally connoted death and possibly, like other carrion birds, death on the battlefield. Such an interpretation may make their appearance on horse harness not inappropriate, but does render the interpretation of the Pietroasa objects as female *fibulae* most curious to the modern mind.

The Panther-Handled Cups

The bodies of the Pietroasa cups are constructed in cloisonné *à jour*, while the top surfaces of the horizontal handles were inlaid with a pattern of cloisonné cellwork (Cat. nos 178-9; *Colour Pls XII, 1. 2*). The bodies of the panthers were constructed of sheet over paste with pin-head-sized cabochon garnets and turquoises inlaid into open holes in a manner similar to the construction of the panther bodies on the Simleul-silvaniei *fibulae*. As discussed above, the technique of cloisonné *à jour* probably developed from band cloisonné, and the openwork panels of these cups were probably constructed by soldering the band settings into the floral patterns and then into panels. These were then soldered to vertical and horizontal bands of soft gold, set with cabochon bars (Harhoiu 1977, 11). In addition to the few surviving garnet bars, a single example of a green cabochon bar is preserved, which has been identified as a spinel (Harhoiu 1977, 19). As on Mosaic Style I and Cabochon Bar Style ornaments, a fixed number of these bars mark off the sections of the design in a proportional manner.

The dodecahedral cup carries large square panels filled with a floral inlay composed of twelve oval petals around an oval centre. On the body of the octagonal cup vertical rows of bars separate small, pierced rosettes linked to the
top and bottom with a long cell wall. The appearance of floral patterns on sword guard designs may bear some relationship to these patterns (Fig. 87; Kazanski 1988, 78, 80). The rosette at the base of the melted electrum cup from the Totenopfer at Szeged-Nagyszéksós might also be noted in this context (Fettich 1953, pl. xvi.16).

The electrum cup provides a significant link between these types of openwork cups and urban production in the Eastern Empire. Its foot bears a pointillé inscription in Greek giving its weight in the manner of silver from imperial factories. This too, would suggest a *terminus post quem* for these types of vessels around the end of the second Hunnic Period. Another ã jour vessel or ornament might have been included in the sixth-century Vendel cremation at Husby Långhûdra, Sweden, with inlays in Carpet Style (Chapter Six; Menghin 1987, 461). The single surviving large garnet plate on the Pietroasa octagonal cup was measured by the author as 26 x 17 millimetres; the surviving plates from the Swedish find measured 28 and 26 x 18 mm. Such extraordinarily large plates are matched only by the other stones in the Pietroasa treasure, the finds from Morskoy Chulek and the shield rim discussed below.

The remaining fragments of garnet cellwork on the handles of the octagonal cups preserve several significant features. One is the appearance of small garnet cabochons carved with a barley-twist pattern, which Arrhenius and, following her, Harhoiu have correctly associated with similar stones on the objects from Apahida and on some of the sword guards in the Cabochon Bar Style (Arrhenius 1969; Harhoiu 1977, 21; Arrhenius 1985, 49-50). The small scale of these particular cabochons places them within the Carpet Style as practised in the second half of the fifth century.

A small segment of cellwork with notched heart shapes appears on the flat handles of the octagonal openwork cups (*Colour Pl. XII.2*). It can only be
assumed that this reconstruction, following Odobescu, is correct. Above each heart are broadly-notched rectangles, similar to those found on the Altlussheim sword guard. More interesting, in terms of technical development, are the plates that accompany the hearts. They are keyhole-shaped, with a triangular bottom and a small knobbed top. The grinding of small knobs on plates is a development of the Carpet Style; larger versions of the shape decorate the chape from Komarom, Hungary, noted above. These features combine to suggest a date in the middle or second half of the fifth century for the cups. Therefore, although there are parallels in the Late Antique Period for the image of panthers drinking from a *kantheros* (Chapter Four), stylistic details would suggest these particular cups are an Early Byzantine manifestation of the form.

M. Soden Smith, one of the nineteenth-century commentators on the Pietroasa fibulae and cups, dated them to the late fifth or sixth century and termed them Byzantine-Gothic (cited in Odobescu 1976, 85 (681), 67 (663), 77 (673)). He also surmised that the torques might be earlier than the other objects in the find. Now it would appear that there is some foundation for his observations.

**Sárviz Shield Rim**

The only cloisonné shield fitting to have survived from the Migration Period is the shield rim was found by gypsies along the Sárviz River west of the Danube. It awaits a modern republication and clarification of the circumstances of its discovery (Cat. no. 180; *Pl. 24*). Even in its damaged state, a few features are obvious.

First, it is constructed in the fourth class of framework cloisonné with a thin backing sheet of gold. The four surviving large garnet stones, slightly polygonal, resemble the shape of the central stone set on the necklace pendant from Olbia
The employment of broadly notched rectangles and their placement, spanning the junction between any two stones, relates to Cabochon Bar sword guards. The inner zone of rectangles recalls similar settings on the Pietroasa collar, while the convex form of the surviving cell walls on the outer zone of the shield suggests that this was set with a rim of cabochon bars similar to those on the Pietroasa cups. All of these features combine to suggest that this should be dated no earlier than the second quarter of the fifth century.

Despite its poor state of preservation, the shield rim must have been a most spectacular and expensive item, set with large inlays of violet colour. The surviving stones are relatively thick and measure 19 x 12, 21 x 12, 25 x 14 and 23 x 14 millimetres, again among the largest surviving garnets from the fifth century. It is difficult to imagine this as anything other than an example of Early Byzantine ceremonial regalia.

Conclusions

The large garnet plates, and everything they imply - expense, good access to stones, established lapidary workshops - suggest that another level of luxury cloisonné existed in the fifth and sixth centuries, which only rarely passed into barbarian hands to be hoarded or buried as grave goods. Certain details suggest it overlapped with the Mosaic, Cabochon Bar and Carpet Styles of ornamentation.

With so few examples any name for this style must be preliminary. Some objects, perhaps slightly later in date, such as the harness fittings from Morskoy Chulek, seem to copy architectural features, such as arches capped with a pediment (Comp. Pl. 12.1). The Pietroasa cups, with à jour panels before shimmering liquid, are not dissimilar in conception to the optical illusions of light.
and space that characterise Early Byzantine basilicas. In light of these comparisons the term Architectural Style might be proposed.

NOTES

1. The significance of this particular form of fibula is illustrated by its representation on a special issue of Justinian (ruled AD 527-565). The gold multiple depicts a frontal bust on the obverse with an adventus scene on the reverse. This appears to be conscious recreation of what has been termed "the idiom of the Roman past" (MacCormack 1981, plate 23), and this presumably also includes his fourth- to fifth-century-style fibula. Other later representations of this fibula type might also be interpreted in this light.

2. The centre section of the small fibula was 4.0% silver, 1.1 % copper, 0.013 % platinum, 0.032 % tin, 0.009 % nickel; the crossbow clasp was 5.0 % silver, 2.4 % copper, 0.006 % tin and 0.03 % bismuth. Only a single sample was taken from one of the vulture fibula which revealed 8% silver, 0.8% copper, 0.028% platinum and 0.006% tin. I am grateful to Dr. Harhoiu for sharing these data with me, which were included in his doctoral dissertation, but not the 1977 BAR publication.

3. I am very grateful to Dr. Peterson, Curator of Birds at the London Zoo for taking the time to review photographs of the Pietroasa and Apahida bird ornaments and propose this identification. In this case perhaps a Eurasian Black Vulture (Aegypius monachus), whose present-day breeding grounds include the Iberian peninsula, the Balkans, the Crimea, Asia Minor and Central Asia would have been the most familiar species (Hanzák 1965, 170-1, nos 304-5).
CATALOGUE AND SELECTIVE BIBLIOGRAPHY

The following list comprises the garnet-inlaid objects discussed in Volume I of this study. The references included with these entries are necessarily selective, focusing upon the primary publications and those cited in the discussions above.

It has been assumed that the majority of red inlays are indeed garnet, which are listed as such. Red glass is cited on a few entries if there was some uncertainty. A thorough laboratory analysis of each object to detect glass or garnet was obviously impractical within the bounds of this thesis, which assumes that the technology and styles of these ornaments were fundamentally the same, regardless of which inlay material was being used. Identification of the materials may therefore be modified with future research. A backing paste or cement is generally present on the objects, but is not listed in the materials unless it constitutes a significant portion of the object, such as in Gold Sheet and Paste Inlaying or some objects in framework cloisonné.

Wherever possible the present location and museum inventory number has been included with the object, although some objects known from older sources or Russian archaeological reports cannot be so assigned.

In the catalogue and text the republics of Russia and the Soviet Union are referred to by shortened terms, i.e. Soviet Georgia for the Georgian Soviet Socialist Republic (Gruziya SSR) and Soviet Ukraine for the Ukrainian SSR. Other republics noted include Soviet Armenia and Azerbaijan in Transcaucasia, Soviet Moldavia adjacent to the Ukraine and Soviet Kazakhstan and Kirghizia in Central Asia. The "Crimea" is the Crimean Peninsula, an autonomous republic of the Soviet Union before 1946, today part of the Soviet Ukraine. The largest administrative unit, the RSFSR (Russian Soviet Federative Socialist Republic) which includes such regions as Abkhazia, the Perm and Siberia is referred to simply as "Russia".

Exact dimensions are given when known. When dimensions have been estimated from a scaled photograph or drawing, this is indicated by app. (approximately) before the numbers.

With the exception of the large assemblages from Tillya-tepe, Afghanistan; Armazis-khevi, Soviet Georgia; the 24.6.1904 Tomb at Kerch in the Crimea; and Apahida, Romania, a brief list of accompanying grave goods, date and circumstances of the find, when known, follows each description.

The entries are divided by technical and stylistic headings primarily for reference purposes, but the order of the catalogue listing follows approximately the narrative in the text. There is accordingly some overlap between the stylistic divisions in each chapter.

Individual Garnet Plates

1. Finger-ring, gold, garnet, mosaic glass (Pl. 1.1)
Cortona, Italy (Museo dell'Accademia Etrusca, Cortona, no. 15816)
L (of bezel): 1.6 x W: 1.0 cm

Oval gold sheet bezel with small oval and square garnet plates, set in individual bezels around a central inlay of mosaic glass.

Bruschetti 1987, 32, no. 7; Arezzo 1988, 152, no. 107

2. Finger-ring, gold, garnet, mosaic glass (Pl. 1.2)
Chiusi, Italy (British Museum, London, no. 1872.6-4.151)
W (of bezel): 3.0 x H: 3.2 x D: 1.3 cm
As above, but with ten square garnets around a mosaic glass inlay.

Marshall 1907, 118, pl. xviii, no. 706

3. Finger-ring, gold, garnet, silver (Colour pl. 1.1)
Provenance unknown (Private Collection, London)
Diam (of hoop): 2.1 x H: 1.9 cm; H (of plate): 1.3 cm x W: 1.0 x D: .2 cm

Ring with a hollow bezel, originally filled with paste and set with a flat garnet plate above a silver foil. Garnet carved with an intaglio of a Nike. Hoop square in section, widening towards the shoulders.

Unpublished

4. Garment Plaques, gold, garnet (Fig. 17)
Burial 1, Tillya Tepe, Afghanistan (Kabul Museum, Afghanistan)
L: 0.4 x W: 0.35 cm

Bow-shaped plaques with triangular plates of garnet separated by a granulated wedge. Three tubes on the back for attachment.

Sarianidi 1985, 227, no. 1.11

5. Pendant, gold, garnet (Fig. 21)
Garni Fortress, Armenia (Armenian State Museum of History, Yerevan, no. 2180/50)
H: app. 1.5 cm

Heart-shaped garnet plate in a gold setting with an integral loop.

Abrahamian 1983, 24, no. 18

6. Necklace with Amulet and Perfume Flask, gold, amethyst, garnets, turquoise (Fig. 24)
Tomb No. 7, Armazis-khevi (Mtskheta), Soviet Georgia (Dzanashchia Museum, Tbilisi)
L (of necklace): 32 cm; W (of amulet): 5.5 cm; H (of flask): 4.2 cm

The attachment loops of the amulet set with flat garnet plates. The front of the amulet decorated with alternating garnet and turquoise cabochons around a high-relief amethyst carved in the shape of a ram’s head. The cylindrical terminals of the chain and the exterior rim of the amulet set with flat rectangular turquoises. The suspended perfume flask set with conical garnet cabochons and one conical turquoise.

Apakidze et al. 1958, 97-102, pls ix, lxxx, lxxx, fig. 50; Pfeiler 1970, 79-80, pl. 22; Roth 1979, 125, fig. 17c; Jawakishvili and Abramishvili 1986, 46

7. Fibula, silver, garnet (Pl. 1.3)
Dura Europos, Iraq (Yale University Art Museum, New Haven, no. 1929.403)
H: 9.0 x W: 5.2 cm

Trapezoidal fibula with eight circular garnet plates, one fragmentary plate and three empty bezels.
Each bezel surrounded by beaded wire. The surface divided into compartments by single and double rows of twisted wire, scattered granules on the surface. The sides and top decorated with large granules; three suspension loops at bottom; plain reverse with remnants of a pin and catch.

Found during excavations in buildings on the main street inside the Palmyrene Gate in a jar with eight hundred and eighteen Roman coins and a group of silver jewellery (three bracelets, eight earrings, one pendant, one fibula, two pendants, one silver sheet). Coins predominantly from the Antioch mint, ranging in date from the second to the sixth decade of the third century AD.

Baur and Rostovzeff 1931, 81 ff, pl. xlv; Baur, Rostovzeff and Bellinger 1933, pl. xxvi, fig. 5; Pope and Ackerman 1938, 465, pl. ix, 139 M; Baltimore 1947, no. 464, pl. lxvi; Siebert 1974, 82

8. Finger-ring, gold, garnet, chalcedony (Colour Pl. I.2)
Spain (Private Collection, London)
H: 1.5 x Diam: 2.1 cm

Ring set with two keystone-shaped garnet plates on either shoulder, underlain with gold foil. Intaglio of a crayfish. Hoop flat in section.

Unpublished

Gold Sheet and Paste Inlaying

9. Ear-rings, gold, garnet, paste (Pl. 2.1)
House of Menander, Pompeii, Italy (Museo Nazional, Naples, no. 145484)
Diam: 2.8 cm

Hemispherical ear-rings set with oval garnets surrounded by a punched gold sheet, formed over a paste base. The inlays identified as purple glass by Breglia, as garnets by Siviero.

Breglia 1941, 59, pl. xxxiii; Siviero 1954, 73, pl. facing p. 188; Carducci 1964, pl. 54

10. Amulet Case, gold, garnet, serpentine (?), paste (Pl. 2.2)
Stupa at Ahin Posh near Jalalabad, Afghanistan (British Museum, London, OA 1880-29)
L: 7.3 x D: 3.0 cm

Ten-sided amulet with oval garnet and leaf-shaped green stone plates alternating along the sides. End caps, one removeable, with six heart-shaped openings around a circular garnet plate. The plates secured in paste between an inner cylindrical tube and the outer punched sheet of gold. Two globular suspension loops.

Found in 1879 by British investigators, surrounded by twenty coins, seventeen of the Kushan dynasty and three Roman aureii of Domitian (AD 81-96), Trajan (AD 98-117) and Hadrian (AD 117-138). Two gold Kushan coins of Kanishka (ca AD 120) and his successor, Vima Kadphises, were contained within the amulet. With the exception of the Vima coin, all were in excellent condition. The green stone identified in 1902 as "Bowenite, a variety of serpentine chiefly worked in the Safid Koh range to the south of Jalalabad". The brown substance inside tested and found to contain lime and phosphoric acid; it was unclear whether this formed part of the paste or fragments (such as bone) contained inside the object.

Dalton 1902, 261-7, pl. xvi, fig. 2; Tait 1976, 227, no. 378; Arrhenius 1985, 55, fig. 44.

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11. Fitting, gold, garnet or glass (Fig. 22)
Batum, Soviet Georgia (present location unknown)
Exact dimensions unknown

Spherical fitting with a cylindrical shaft hole. Constructed of a punched gold sheet over oval garnet or glass plates. Possibly from a baton or staff.

Hoard found in 1907. The accompanying finds, purchased by the State Hermitage Museum and the Russian Imperial Archaeological Commission, included: a medallion set with a rock crystal engraved with a portrait bust of Lucius Verus (AD 161-169) in a border of twisted wire and wavy ribbon; a fragment of a silver bowl with a representation of Fortuna; a gold necklace composed of double palmettes; a small gold sheet with a bust of Dionysius; a large gold sheet with geometric patterns, an ear-ring with a pointed garnet cabochoн, hung with pearls; two hooked clasps, one with a garnet, the other with an animal head; a gold medallion set with an onyx; a granulated gold breast medallion; two massive gold finger-rings set with intaglìos; a fragmentary plaque with a figure in Iranian costume; twenty-five beads and fragments of bronze and silver utensils.

*Pharmakowsky 1908, 162-3, fig. 7; Pfeiler 1970, 92-4*

12. Plaque, gold, garnet (Pls 2.3, 10.2)
Wolfsheim, Germany (Museum Wiesbaden, Sammlung Nassauische Altertümer, no. 16609)
H: 7.7 x W: 5.45 cm

Plaque with articulating hinges, its upper section with alternating circular and rhomboid plates set in paste below a punched gold sheet; two small triangular plates set on both sides. The pendant section with one heart-shaped and two square stones in band bezels. A poinbike inscription in Pahlavi script on the reverse, transcribable as 'Ardashir'.

Accompanying grave goods listed under Cat. no. 130.

*Ebert 1914, 37-96; Behrens 1922/24, 73-5, fig. 2; Werner 1956, 83-9, pls 4, 58; Hubert, Porcher and Volbach 1969, no. 226; Roth 1979, 202, no. 31; Menghin 1987, 183-4, no. iii.55h with a full bibliography*

13. Dagger Hilt, gold, garnet, turquoise (Fig. 26)
Tomb no. 3, Armazis-khevi (Mtskheta), Soviet Georgia (Dzhanashchia Museum, Tbilisi)
L: 10.7 x Diam: 3.0 cm

Polygonal hilt constructed of a punched gold sheet around rectangular, oval and lozenge-shaped garnet plates. The front panel with a pattern of alternating rectangles and ovals, broken by a rhomboid with four triangular plates in turquoise at the corners. Top end with two oval garnets in individual bands, surrounded by small turquoise plates. Plain gold foils.

*Apakidze et al. 1958, 55-6, pls iii, lli, liii; Roth 1979, 125, fig. 17f; Roth et al. 1979, 125, fig. 17f; Roth 1980, 314, fig. 1.6; Ambroz 1986, fig. 1, no. 5*

**Unit Cell Style (Western Asia and Soviet Georgia)**

14. Ear-ring, gold, garnet or spinel, glass (Fig. 25)
Hatra, Iraq (Iraq Museum, Baghdad, no. I.M. 68096 - HA.8.243)
Teardrop-shaped ear-ring composed of one oval and two rhomboid-shaped garnets and a crescentic piece of green glass secured by individual bands; suspended circular plate. Beaded wire border. Three gold balls soldered along each side.

Torino 1985, 427; Arrhenius 1985, 34, 36, fig. 8; Stierlin 1987, 180-1

15. Finger-ring, gold, garnet (Fig. 23)
Tomb no. 7, Armazis-khevi (Mtskheta), Soviet Georgia (Dzhanashchia Museum, Tbilisi)
Diam: 1.4 - 1.6 cm

Ring with a plain hoop and a bezel composed of four heart-shaped garnets set tip to tip.

Apakidze et al. 1958, 105, pl. x.4; Roth 1980, 315, fig. 1.5

Medallion Style I and Rectilinear Style I
(Western Asia, Soviet Georgia and the Bosphorus)

16. Pendant, gold, garnet or spinel (Fig. 27)
Hatra, Iraq (Iraq Museum, Baghdad, I.M. 5317- Ha. 17.650)
L: 5.0 x W: 4.6 cm

Three conjoined medallions, each composed of small square and trapezoidal garnet plates encircling an oval garnet plate surrounded by a broad band of plain gold. Two hinged attachments at the top, with remnants of suspension chains; plain gold foils beneath the stones.

Excavated at the North Gate of the city.

Torino 1985, 427; Stierlin 1987, 180, 262

17. Pendant, gold, garnet, agate, pearls (Fig. 28)
Tomb No. 2, Armazis-khevi, Soviet Georgia (Dzhanashchia Museum, Tbilisi)
L: 2.4 x H: 1.9 cm

Necklace pendant set with a cameo of a dog, surrounded by curved rectangular garnet plates; three suspended pearls.

Apakidze et al. 1958, pls ii.2, xlvii.10; Roth 1980, 314, fig. 1.4; Javakhishvili and Abramishvili 1986, 55

18. Bracelet, jet, garnet, gold (Fig. 29)
Tomb no. 25, Mtskheta, Soviet Georgia (Dzhanashchia Museum, Tbilisi)
W: 7.1 x D: 6.2 cm

Jet bracelet mounted with a garnet cloisonné panel composed of twenty-four square and rectangular plates; two additional square inlays set flush with the jet on either side of the panel. Plain gold foils. Gold pinned hinges on back side.
19. Belt or Breast Chain, gold, garnet (Fig. 30)
Ureki, Soviet Georgia (Dzhanashchia Museum, Tbilisi)
L: 90 cm

Fifty hexagonal ornaments with tubular suspension loops on reverse. Elements set with six triangular garnet plates alternating with others composed of openwork double-bow spirals around conical garnet cabochons. Plain gold foils, visible around the stones.

Accidental find in 1952 of a richly furnished female grave at the mouth of the Soupsa river; re-published in 1975. Coins included four imperial didrachmas of Hadrian (AD 121-2), an imperial drachma of Caracalla, dinars of Septimius Severus, an aureus of Tacitus (AD 275-6) and gold imitations of aurei from the third century AD. Grave goods included an amphora of Abkhazian type, a folding iron stool, silver hygiene implements, bronze fibulae, an agate-inlaid fibula, a gold bracelet set with cabochon garnets around its terminal ends, a group of large rectangular cornelians in gold settings with hanging chains, two gold rings and a silver ring of third to fourth-century type.

Lekvinadze 1975, 202-3, fig. 7g; Arrhenius 1985, fig. 202; Javakhishvili and Abramishvili 1986, 73

20. Pendant, gold, garnet, green glass, enamel, pearls (Fig. 31)
Grave no. 13, Aragvispiri, Soviet Georgia (Dzhanashchia Museum, Tbilisi, no. 5-975:31)
Diam: 4.6 cm

Necklace pendant with three concentric zones of inlaying, enclosed in a gold tongue and groove border. Outer zone of alternating garnet and green glass triangles; a second zone of rectangular garnet plates. Within a reserved band of plain gold, an inner zone of blue enamel surrounding a pale green quatrefoil in Zellenschmelz technique. Attached by side loops to a loop-in-loop chain with a pearl, green glass and gold beads suspended on a wire.

Excavations in progress since 1973 on the grounds of the vineyard of the local sovhoz (cooperative society), following the laying of an underground pipeline. Forty-six graves excavated in the cemetery, including a cluster of richly furnished graves. Grave no. 13 was a male burial in a stretched posture with a silver cup below his head. Grave goods included two repoussé silver jugs, a silver dish, a gold bracelet, three gold rings (two with intaglios), gold buttons, a gold incrusted table, three gold coins, silver coins and glass vessels. Latest coin a gold aureus of Valerian (AD 254-60).

Ramishvili and Dzhorbenadze 1976, 36-7; Ramishvili 1977, 121, fig. 5; Javakhishvili and Abramishvili 1986, 76

21. Belt Buckle, gold, garnet, green glass (Fig. 33)
Grave no. 13, Aragvispiri, Soviet Georgia (Dzhanashchia Museum, Tbilisi)
L: 3.7 x W: 2.6 cm

Square buckle with two parallel rows of alternating garnets and green glass, bordered by double rows of twisted wire. Three (?) silver attachment rivets at the back of the plate also surrounded by twisted wire.

See Cat. no. 20.
22. Two Finger-rings, gold, garnet (Fig. 39)
Grave no. 9, Aragvispiri, Soviet Georgia (Dzhanashchia Museum, Tbilisi)
Exact dimensions unknown

The broad hoops inlaid with two rows of square garnet plates; the bezels set with trapezoidal plates around a cabochon garnet.

See Cat. no. 20. Female skeleton on her left side in a contracted posture, facing west. Two jugs placed beside her head. Wearing a garment with gold plaques, gold hoop earrings with suspended pearls and a hoop ring with a rhomboidal-shaped cabochon garnet.

Ramishvili and Dzhurbenadze 1976, 35-7, pl. xiv, 3-4; Ramishvili 1977, 116, fig. 2.

23. Medallion, gold, garnet, glass (Fig. 37)
Grave no. 9, Aragvispiri, Soviet Georgia (Dzchanashchia Museum, Tbilisi)
Exact dimensions unknown

Medallion with an outer zone of triangular plates in a zig-zag pattern and an inner zone of trapezoidal plates around a circular cell set with glass.

See Cat. nos 20 and 22. Ramishvili and Dzhorbenadze 1976, 35-7, pl. xiv, 3-4; Ramishvili 1977, 116, fig. 2

24. Torque Medallion, gold, garnet (Fig. 38)
Second grave, Bolshoi Kamenets, Soviet Ukraine (Oruzheinaia Palata Museum, Moscow)
Diam (of medallion): 4.2-4.3 cm

Medallion composed of four concentric zones of inlay. Rectangular plates surrounding a zone of triangular plates. In the centre a row of semi-circular plates in alternating green glass and garnet around a cabochon.

From the second grave at Bolshoi Kamenets, a village near the Sudzha river in the Dnieper basin. Found by peasants in 1927, a quarter of a kilometer from the first grave, in a cultivated layer which had slipped towards the bottom of a ravine. The only other items recovered were a pair of loop-in-loop chain bracelets with animal-headed clasps and a length of loop-in-loop chain over two metres long.

Matsulevich 1934, 63-74, 121-2; Fettich 1951, 129, 162, pls xxi.1, xxiv.10; Rybakov 1953, fig. 6; Werner 1956, 86-7; Keller 1967, 117

25. Pair of Ear-rings, gold, garnet, green glass, pearls (Fig. 36)
Soviet Georgia, provenance unknown (Art Museum of Georgia, Tbilisi)
H: 5.0 x W: 2.0 cm

Ear-rings set with trapezoidal plates in alternating garnet and green glass trapezoidal plates around central tear-drop-shaped inlays, one centre inlay flat, the other cabochon with a median ridge. Suspended pearls. Plain gold foils.

Sanikidze 1985, pl. 4

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26. **Necklace Pendant**, gold, cornelian, garnet, green glass (Colour Pl. I.3)
24.6.1904 Tomb, Kerch, Crimea (The State Hermitage Museum, Leningrad, no. 1820.567)
H: 3.3 x W: 3.0 cm

Cabochon cornelian in a broad gold bezel with a border of curved rectangular garnet and opaque green glass inlays; attachment hinges at either side and a suspended wire with a green glass bead. Surrounded by bead and reel wire.

*All of the objects from Kerch listed in the catalogue below, nos 33-47, 51, 54, 59-60, are held in the State Hermitage Museum in Leningrad. All are from the 24.6.1904 Tomb except for nos 40 and 56, which are from Tomb 145. All except Cat. no. 60 were published by Spitsyn 1905, 115-26 and Zasetskaya 1979, 5-17. Complete grave goods from the double burial in the 24.6.1904 Tomb are given in Shkorpil 1907 and Damm 1988, 74-81. Additional bibliography listed where applicable.*

27. **Necklace**, gold, garnet (Fig. 40)
Tomb No. 19, Armazis-khevi, Soviet Georgia (Dzhanashchia Museum, Tbilisi)
L (of chain): 26.5 cm, D (of beads): 0.7 cm

Necklace consisting of forty alternating garnet cloisonné and granulated cylindrical beads. Each cloisonné bead composed of four curved cabochon bars. Plain gold foils.

*Apakidze et al. 1958, pl. xcvi.2; Javakhishvili and Abramishvili 1986, 54*

**Medallion/Rectilinear and Unit Cell Combinations**
(Bosphorus and Soviet Georgia)

28. **Dagger Pommel**, chalcedony, gold, garnet, glass (Fig. 32)
Diam (of pommel): 4.9 x D: 1.0 cm; Diam (of cloisonné panel): 3.4 cm
1841 Tomb at Adshimushkai, Kerch, Crimea (State Hermitage Museum, Leningrad)

Tabular chalcedony pommel mounted with a disc decorated with three concentric zones of inlay. The outer zone set with alternating trapezoidal green and red glass or garnet plates; the second zone with a punched sheet of gold over green and red circular plates; an inner zone of alternating red and green trapezoidal plates. A border of beads around the cloisonné panel.

Found in 1841 by Ashik in a tumulus at the quarry at Adshimushkai in Kerch. Wooden coffins in a chamber tomb contained two furnished burials. The male buried in a wooden coffin plated with lead, wearing a garment with gold plaques, a gold funerary crown, a sword, dagger, knife, spear and whetstone, together with horse harness, and two impressions of coins of Rheuscuporis II or III (AD 210/211 - 234-235). A horse buried in a deposit under the arch of the tumulus.

*De Linas 1878, ii, 114, pl. Cl; Reinach 1892, 26, pl. xxvii.7; Rostovtzeff 1923, fig. 15; Ginters 1928, 61; Rupp 1937, pl. xv.12; Böhner 1948, 223, pl. 37.1; Gaydukevich 1971, 443-5, fig. 137*

29. **Belt Buckle**, gold, garnet, green glass (Fig. 34)
Rostov-on-Don, Russia (Rostovskii Oblastnoi Musei, Kraevediniya)
L: app. 6-7 cm

Buckle with a round plate and an integral square loop; the plate decorated with an outer zone of trapezoidal garnet plates around an inner zone of circular and semi-circular garnets with green glass
interstices. A border of granulation or beaded wire around the entire piece.

Unpublished

30. Diadem, gold, garnet, green glass (Fig. 35)
Soviet Georgia, exact provenance unknown (Art Museum of Georgia, Tbilisi)
L: 19.0 x H: 2.5 cm

Diadem with three inlaid segments separated by rows of gold discs. The outer, circular elements inlaid with rectangular and triangular garnet plates in an X pattern, the centre rectangular section with triangles of garnet around a gold field set with a circular green inlay. Pendants suspended from the outer medallions.

Sanikidze 1985, pl. 3

31. Buckle Plate (?) or Pendant (?), gold, garnet (Fig. 41)
Ureki (Soupsa), Soviet Georgia (Dzhanashchia Museum, Tbilisi)
L: 4.8 x W: 3.5 cm

A plaque in the shape of a handled flask with a top row of rectangular plates above a medallion-style composition of rhomboidal plates, triangular and free-form plates in a vegetal or insect pattern. One half of a set of articulated hinges along the straight edge.

See Chapter Two, Note 9 regarding function. Stray find in 1948.

Lekvinadze 1975, 203, fig. 6a; Arrhenius 1985, 163, fig. 202, Javaakhishvili and Abramishvili 1986, 73

Unit Cell Style (Bosphorus)

32. Pommel or Sword Bead, rock crystal, garnet, gold or gilt copper (Fig. 42)
Kerch Glinische 1896, Crimea (Arkheologicheskii Muzei an USSR, Odessa)
Exact dimensions unknown

A polygonal rock crystal, drilled through the centre; the top set with eight circular garnets in individual bands around a central circular plate with four attachment rivets.

See Cat. no. 58. Von Stern 1897, pl. 1.2; Werner 1956, 122, pl. 15.7; Dzhis-Rayko 1983, 75, no. 141.

33. Four Strap Ends, gold, garnet (Pl. 3.1)
Kerch (Hermitage nos 1820/688-91)
L: 7.5 x W: 9 cm

Slender leaf-shaped strap ends set with alternating circular and rhomboid-shaped plates. Triangular auxiliary cells, notched shield-shaped plate at tip. Plain gold foils.

See Cat. no. 26. Brenner 1912, fig. 9.2
34. Two Strap Ends, gold, garnet (Pl. 3.2, 2a)
Kerch (Hermitage no.1820/687; Römisch-Germanisches Museum, Köln no. D331c)
L: 7.0 x W: 1.2 cm

Leaf-shaped strap ends, each set with three hearts, one heder-shaped and one circular plate.
Triangular and wedge-shaped auxiliary cells. Notched rectangular and rounded rectangular plates at
tip. Plain gold foils.

See Cat. no. 26. Brenner 1912, fig. 9.3; Götze 1915, 14, no. 63; von Jenny and Volbach 1933,
37, pl. 1; Fremersdorff 1937, 50, fig. h; Arrhenius 1969, fig. 3; Damm 1988, 96, no. 3

35. Pair of Bracelets, gold, garnet, rock crystal (Pl. 3.3)
Kerch (Hermitage nos. 1820/561- 562)
H: 6.7-6.8 X D: 5.9 cm

Bracelets with a central medallion set with seven kidney-shaped garnets around a rock crystal
cabochon, the cabochon and medallion surrounded by fine beaded wire. The kidney-shaped stones
in band settings; small plugs of gold set between the centre depression of each stone and its
surrounding cell wall. No auxiliary cells. White backing paste present in empty cells on no. 1820-
561. Pinned hinges on either side of the medallion. The hoops set with rectangular garnet plates
and two tear-drop shaped cabochons on either side of the medallion.

See Cat. no. 26. Zasetskaya 1975, 19, fig. 6

36. Scabbard Fitting, gold, garnet (Pl. 3.4)
Kerch (Hermitage no. 1820/596)
L: 5.2 x H: 1.0 cm

Double-curved panel set with four bean-shaped garnet plates in band settings. Thick cell walls
around well-ground and polished primary plates; two perpendicular cell walls added to fill gap
between side wall and the plates. Poorly-ground auxiliary plates. Plain gold foils evident around the
edges of the inlays.

See Cat. no. 26

37. Pair of Rein Distributors, silver, gold, garnet
Kerch (Hermitage no. 1820/781)
L (of longest panel): 10.0 x W: 1.3 cm, D (of rings): 3.9 cm

Two rectangular panels, one short and one long, with hearts alternating with circular plates. Both
with silver backing plates terminating in loops attached to a central ring.

See Cat. no. 26. Artamanov 1974, no. 85; Harhoiu 1977, 26, 47, fig 1.9; Zasetskaya 1975, 19,
fig. 6; Zasetskaya 1982, 29, fig. 6.2, 3

38. Two Circular Fittings, gold, garnet, glass (Colour Pl. 1.4)
Kerch (Hermitage no. 1820/666, Römisch-Germanisches Museum, Köln, no. D 611).
D: 2.1 cm

Four bean-shaped plates in band settings with notched auxiliary triangles and a central rhomboid in
See Cat. no. 26. *Damm 1988, 190-1, no. 108*

39. Four Polyhedral Beads, cement, gold, garnet (*Pl. 3.5*)
Kerch (Hermitage no. 1820.767)
H: 2.3 x D: 1.6 cm

Beads composed of a cement core overlain with an openwork sheet of gold over rhomboid plates in the centre and triangular plates on the bevelled corners. One bead set with one oval plate.

See Cat. no. 26

40. Three Buckles, silver, gold, garnet (*Pl. 4.1*)
Kerch (Hermitage nos. 1820/692, 693; Tomb 145: no. 1820/189)
H: 3.2 x W: 1.0 cm; 3.1 x 1.8 cm; 3.1 x 1.9 cm

Gold and garnet panels on top of a silver base plate; two with circles, one with a rhomboid within a rectangular field. Buckle loops gilt silver. Well-ground and polished unit cell stones, poorly ground triangles.

See Cat. no. 26

41. Dagger Hilt Fitting, gold, garnet (*Pl. 4.2*)
Kerch (Hermitage no. 1820/602)
H: 9.0; L (of guard): 5.6 cm; Diam (of hilt fitting): 2.2 x H: 1.0 cm

Panel of four rhomboidal plates mounted on a hemispherical backing. The rhomboids linked by short horizontal cell walls, with auxiliary triangular cells. Some stones well-ground and polished, others crudely chipped. Fragmentary hilt and blade.

See Cat. no. 26

*Mosaic Style I (Bosphorus)*

42. Scabbard Panel, gold, garnet, glass (*Colour Pl. II.1, 1c*)
Kerch (Hermitage no. 1820/595)
H: 9.7 x W: 4.7 cm

Slightly convex rectangular panel mounted to a flattened oval scabbard fitting. Decorated in three vertical registers. Each side register with six circular plates centered within rectangles, the central section composed of two thumbnail-shaped plates, one circular plate, an acanthus and a half-heart-shaped plate. The circular inlays in the third and fifth sections on the side registers set with opaque green glass; in the central register the circular plate and auxiliary plates above the acanthus also in green glass. All circular plates surrounded by four rectangular plates ground with large notches; the glass inlays to the sides of the acanthus plate ground with small notches. Finely beaded wire along the sides. All inlays well ground, polished and fitted to their cell walls.

See Cat. no. 26. *Matsulevich 1926, pl. iii; Ginters 1928, 74-5, pl. 31a; Behmer 1939, 80-1, pl.*
43. **Hilt Fitting, gold, garnet (Colour Pl. II.1, 1b)**
Kerch (Hermitage no. 1820/595)

W: 2.8 x H: 2.1 cm

Arched panel with two circular plates in rectangular fields flanking two cabochon bars at the front angle, mounted to the front surface of the cylindrical fitting. Plain gold foils evident around edges.

See Cat. no. 26. Zasetskaya 1975, 19, fig. 6; Zasetskaya 1982, 29, fig. 6

44. **Hilt Fitting, gold, garnet (Pl. 4.3 (Top) and Colour Pl. II.1)**
Kerch (Hermitage no. 1802/595)

L: 3.4 x H: 1.7 cm

Panel with two circular plates in rectangular fields flanking a vertical rectangular cabochon ground with a median groove. Plain gold foils evident around edges.

See Cat. no. 26. Brenner 1912, fig. 8.1; Matsulevich 1926, pl. iii; Ginters 1928, 74-6, pl. 31; Rupp 1937, pl. iii; Behmer 1939, pl. xi. 5b; Bohner 1948, fig. 2.1; Garscha 1936, pl. 41.4a; Zasetskaya 1975, 19, fig. 6; Zasetskaya 1982, 29, fig. 6.

45. **Scabbard Mouthpiece, gold, garnet, glass (Pl. 4.3 (Bottom), Colour Pl. II.1)**
Kerch (Hermitage no. 1820.595)

W: 5.3 x H: 2.5 cm

Panel with two bean-shaped plates flanked by two vertical rectangular plates on the outer sides and two short cabochon bars in the centre. Cells above the bean-shaped plates set with notched square inlays of green glass. Cabochon bars poorly ground, the lower stone of inferior quality. Panel skirted with a sheet of gold scored with triangles.

See Cat. no. 26. Brenner 1912, fig. 8.1; Matsulevich 1926, pl. iii; Ginters 1928, 74-6, pl. 31; Garscha 1936, pl. 41.4a; Rupp 1937, pl. iii.4; Behmer 1939, pl. xi. 5b; Bohner 1948, fig. 2.1; Zasetskaya 1975, 19, fig. 6; Zasetskaya 1982, 29, fig. 6.

46. **Scabbard Slide, gold, garnet (Colour Pl. II.1)**
Kerch (Hermitage no. 1820/595)

L: 14.1 x 1.8 cm

Rectangular scabbard slide of Trousdale's Form I. Four circular plates alternate with three rhomboids in rectangular fields on the front surface. The sides inlaid with triangular plates, not as well-ground as the unit cells. Heavier construction than the scabbard panel to which it was mounted. A stylized animal head at the bottom ends of each side.

See Cat. no. 26. Matsulevich 1926, pl. iii; Ginters 1928, 74-6, pl. 31e; Behmer 1939, 80-1, pl. xi.5f; Bohner 1948, fig. 2.1; Werner 1956, pl. 58.7; Roth 1979, 126, no. 29a; Trousdale 1975, 103, 239, pl. 20c; Zasetskaya 1975, 19, fig. 6; Zasetskaya 1982, 29, fig. 6

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47. **Scabbard Chape**, gold, garnet or glass (Pl. 4.4, 4a)
Kerch (Hermitage no. 1820/601)
L: 5.2 cm

Recurved cloisonné panel attached to a backing. Four circular unit cells separated by a vertical rectangular cell, horizontal grooves ground on the surface of the rectangular plate. Two of the bands around the circular inlays not soldered at ends. Short sections of cell walls between the outer frame and unit cells. All garnets rather poorly ground, particularly the auxiliary wedges.

See Cat. no. 26. *Garscha 1936, pl. 41.4b; Rupp 1937, pl. iii.5; Behmer 1939, 80-1, pl. xi.5e; Böhner 1948, fig. 2.*

48. **Collar**, gold, garnets, green and blue glass or malachite and lapis lazuli (Colour Pl. III.1)
Pietroasa, Romania (Muzeul de Istorie al R.S. Romania, Bucharest, no. AV. 493)
Diam: 20 cm (bottom), 15 cm (top)

Collar constructed of a framework of inlays and a gold backing sheet, opening by means of two pinned hinges. The inlay framework composed of sections with an insect pattern alternating with sections of vertically linked hearts. The insect patterns consisting of palmette, heart-shaped and floral cells, with small circular inlays in blue. Two horizontal rectangular cells at the top and three at the bottom, of the same length as the unit cells in the pattern. Green triangular auxilliary cells in the heart sections.

See cat nos 175-9. *Odobescu 1976, 657-62 (61-66); Dunăreanu-Vulpe 1967, 88; Harhoiu 1977, 14, pl. X; Arrhenius 1969, 14, fig. 15; Arrhenius 1985, 81, fig. 91*

49. **Buckle**, gold, garnet, green glass (Colour Pl. III.2)
Kerch (Hermitage no. 1820/685)
L: 6.6 x W: 3.5

Buckle plate with a diamond within a circle, the points of the diamond set with translucent green glass around an empty circular cell, oval garnet plates as auxiliary cells. Damaged loop with key-stone-shaped garnet plates in shared-wall cloisonné, tongue set with five cabochon bars in framework cloisonné. Plain gold foils.

See Cat. no. 26. *Brenner 1912, fig. 9.1; Matsulevich 1934, 66, fig. 11, Gaydukevich 1971, fig. 154*

50. **Buckle**, gold, garnet, green glass or turquoise (Colour Pl. III.3)
Kerch (Hermitage no. 1820.686)
L: 4.8 x W: 2.6 cm

Buckle plate with a circular plate surrounded by curved trapezoidal plates. Loop constructed of circular plates in framework cloisonné, small triangular auxiliary cells in green glass. The tongue constructed in framework cloisonné, originally set with cabochon bars. Plain gold foils.

See Cat. no. 26. *Matsulevich 1934, 66, fig. 11, Gaydukevich 1971, fig. 154*

51. **Three Strap Ends**, gold, garnet (Pl. 5.1)
Kerch (Hermitage nos 1820/670-2)
No. 1820/670 set with a rhomboid within a rectangular field above a thin, curved cabochon bar, set horizontally. The other two strap ends with vertical rectangular cells above the horizontal bars. The lower bars underlain with plain gold foils and mounted on thick beds of cement.

See Cat. no. 26.

52. Rectangular Panel (?Scabbard Fitting), gold, garnet, green and blue glass (Pl. 5.4)
Kerch (Massoneau Collection, Römisch-Germanisches Museum, Cologne, no. D 331d)
L: 5.15 cm x W: 0.8 cm

Flat rectangular panel with three circular plates in band cloisonné within rectangular fields, separated from one another by two square cells. One circular plate of green glass and two square plates of opaque blue glass surviving, other square and circular cells empty. Gold foils scored with a lozenge pattern. Garnets possibly pyrope.

Damm 1988, 96-7

53. Two Rectangular Panels, gold, garnet (Pl. 5.5, 5a)
Kerch (Massoneau Collection, Römisch-Germanisches Museum, Cologne, no. D 331h)
L: 1.4 cm x W: 0.7 cm x D: 0.3 cm

Small rectangular panels set with semi-circular plates linked by cell walls to the sides. Bordered by notched rectangular cells. Gold foils stamped with rhomboids.

Damm 1988, 99

Rectilinear and Unit Cell/Mosaic Style Combinations (Bosphorus)

54. Double-Headed Goat Fittings, silver, gold, garnet, white inlay (Colour Pl. IV.1)
Kerch (Hermitage nos 1820/649-50)
W: 6.7 x H: 7.0 (1820/649), W: 6.4 x H: 7.1 (1820/650)

Cloisonné panels in the shape of double-headed horned animals, riveted to silver panels of the same outline. The bodies set with bean-shaped plates centred between circular plates in Mosaic Style I; the necks and legs set with triangular plates in a zig-zag pattern together with some free-form plates. Crushed gold foils and white cement remaining below missing inlays. Traces of white inlay in outer zone around eye of 1820/650.

See Cat. no. 26. Brenner 1912, pl. 9.5; Fettich 1951, 162, pl. xxiv.9; Galankna, Grach and Torneus 1967, fig 50; Zasetskaya 1975, 19, fig. 6.

55. Purse (?) or Scabbard (?) Fittings, silver, gold, garnet (Pl. 5.6, 6a)
Kerch (?), Crimea (The British Museum, London, M & LA 1923,7-16,12)
L (of bird-headed fittings): 2.1 x 1.0 cm

Central rectangular panel with a rhomboidal garnet plate drilled with a circle, surrounded by auxiliary triangles. Two bird-headed panels with drilled circular plates for eyes, set in silver band cloisonné, their
necks composed of notched rectangular and long rectangular plates. No backing plate, scored silver foils, gold strips laid over the silver cellwork, gold inlay surviving in one drilled eye plate.

See Cat. no. 84. Dalton 1924, 259-62; Tait 1976, 103, 247, pl. 226a; Menghin 1987, 112, no. 1.16.1, colour pl. 1

Medallion and Rectilinear Styles (Bosphorus)

56. Pommel or Sword Bead Fitting, gold, garnet (Colour Pl. IV.2)
Kerch, Tomb 145 (Hermitage Museum no. 1820.607)
Diam: 2.4 x D: 2.0 cm
Trapezoidal garnet plates surrounding a zone with only paste surviving around a central circular plate in band cloisonné; loop fitting on reverse.

See Cat. no. 26. Werner 1956, 123, pl. 50, 1 (listed with sword beads)

57. Pommel, agate, gold, garnet (Colour Pl. IV.3)
Kerch (Hermitage no. 1820.606)
D: 4.1 x H: 2.0
Tabular agate pommel mounted with a dimensional centre boss set with trapezoidal garnet plates, slightly convex, converging at a central cabochon; small cabochons in band settings around the boss.

See Cat. no. 26. Ginters 1928, 74-6, pl. 31b; Behmer 1939, 80-1, pl. xi.5a; Böhner 1948, fig. 2.1a; Zasetskaya 1975, 19, fig. 6; Zasetskaya 1982, 29, fig. 6

58. Pommel, chalcedony, garnet, gold or gilt copper (Fig. 43)
Kerch Glinishche 1896, Crimea (Arkheologicheskii Muzei an USSR, Odessa)
Exact dimensions unknown
Tabular agate pommel set with a conical boss composed of trapezoidal plates converging at a top knob.

Male grave goods included the pommel or sword bead described above (no. 32), a hollow gold scabbard slide terminating in a stylised animal head, three individual garnet cabochons, two small Hunnic period buckles set with green glass and garnet, two Roman rings in third to fourth-century style, and a rectangular sheet-gold belt plaque. Accompanying female grave with a diadem with an impression of a coin of Galerius (minted AD 293-305), one gold and one silver bracelet, both hollow, one gold and one silver ear- or hair-ring, and a finger-ring with a blue glass setting.

See Cat. no. 32. Von Stern 1897, pl. 1.3; Behmer 1939, 80, pl. xi.1; Böhner 1948, 224, pl. 37.2 Werner 1956, 122, pls 7.7a, 30.6, 15.7a; Dzhis-Rayko 1983, 75, no. 141

59. Hilt Fitting, gold, garnet (Colour Pl. II.1, 1a)
Kerch (Hermitage no. 1820/595)
W: 2.9 x H: 2.1 cm

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Arched panel mounted to a cylindrical backing with two rows of three rectangular cells flanking two central cabochon bars. The cabochon bars at the front angles enclosed in separate bands of gold. Bars well-shaped, highly polished. Plain gold foils, evident around the edges of the stones.

See Cat. no. 26. Ginters 1928, 74-76, pl. 31; Behmer 1939, 80-81, pl. XI. 5c; Böhner 1948, fig. 2.1; Zasetskaya 1975, 19, fig. 6; Zasetskaya 1982, 29, fig. 6

60. Scabbard Fitting, gold, garnet (Pl. 5.2, 2a) Kerch (Hermitage no. 1820.600) L: 8.5 cm

A double-curved cloisonné panel mounted to a separate backing. Six rectangular stones in shared-wall cloisonné, three on either side of a central cabochon bar. A pair of attachment studs on either side of the backing sheet.

See Cat. no. 26.

61. Three Scabbard Fittings, gold, garnet (Pl. 5.3) Kerch (?) (Romisch-Germanisches Museum, Cologne, no. RGM D 686) W: 4.7 cm

Three double-curved fittings from a scabbard sheath, the top mouthpiece section mounted on an elliptical band to encircle the scabbard, the other fittings mounted on the front. Set with rectangular stones over plain gold foils atop cement.

Götze 1907, 62, pl. 45; Behmer 1939, 76, pl. xiv.2; Damh 1988, 184-6

62. Panel (Scabbard Fitting?), gold, garnet, glass Kerch (Historiska Museet, Stockholm, no. 232.43 (?)) L: 3.0 x W: 0.6 cm

Rectangular panel with six cells; four garnet plates and one opaque green glass inlay surviving; plain foils beneath the stones.

Arrhenius 1969, fig. 51a-b; Arrhenius 1985, fig. 36

Medallion Style, Phase II (Europe and southern Russia)

63. Coin Medallion, gold, garnet, glass (Fig. 48) First Hoard, Simleul-silvaniei (Szilágy-somlyó), Romania (Kunsthistorisches Museum, Vienna) Diam: 5.5 cm

Cloisonné border in two running groups of zigzag cells set with triangular garnet and one glass inlay, broken by two rectangular plates, around a gold coin of Maximianus (AD 286-304/306-308).

The two hoards at Simleul-silvaniei (Szilágy-somlyó) were found in 1797 and 1889 in the Carpathian mountains near the Gate of Meszes, a gate to the limes in Roman Dacia. It is generally assumed that they belonged together. The first hoard is held in the Kunsthistorisches Museum in Vienna, the second in the Magyar Nemzeti Múzeum in Budapest. An inventory and analysis of the
Budapest material was prepared by Fettich in 1932. (See also Menghin 1987, 217, for the addition of another fibula in the collection of the Metropolitan Museum of Art that may have come from the second hoard.) The first hoard, consisting of seventeen coin medallions, a gold chain with miniature agricultural implements and a rock crystal ball with rampant panthers, a bull and several miscellaneous objects awaits a complete modern re-publication. In the meantime, the three volumes of Hampel 1971 publish all the finds (i, 69-73; ii, 15-39; iii, pls 15-31) an inventory may be found in Noll 1974a, L1-43, and the popular volume by László 1970 provides good details of objects from both finds. The plate fibulae are published in Ambroz 1966. Catalogue nos 63-4 came from the first hoard; nos 65-73 from the second hoard.

64. Medallion, gold garnet
First Hoard, Simleul-silvaniei (Vienna no. AS VII B113)
Diam: 6.65 cm

An outer flange of gold stamped with zigzags, separated by beaded wire from an inner zone of triangular plates in a zig-zag pattern. A double band of granulation, interrupted by triangular groups of granules, around the base of the central boss, its concave centre set with a four-armed star of granulation around a central cabochon, a ring of small cabochons sunk into the rim around this. Garnets set directly on cell backs, no gold foils used. Two riveted attachment loops at top.

See Cat. no. 63. Noll 1974a, 75, L16; Roth 1979, 136, no. 44c; Wolters, 1983, 202

65. Omphalos Cups, gold, garnet (Fig. 49)
Second Hoard, Simleul-silvaniei (Magyar Nemzeti Múzeum, Budapest nos. 122/1895, 15-16)
Diam. (of cups): 12.4 cm; 12.7 cm

In the centre of both gold bowls a band of regular zigzag cellwork with triangular garnet plates. A round garnet cabochon set in the centre of the domed white inlay surviving on the smaller bowl. Scored foils.

See Cat. no. 63. London 1930, 95, R.5 (2)

66. Pair of Fibulae, paste, gold, garnet, glass or stones (Fig. 50)
Second Hoard, Simleul-silvaniei (Budapest nos 122/1895.5-5a)
L: 14.7 x W: 15.3 cm

Fibulae with bows in the shape of panthers with their heads turned to the sides. The hollow bodies of the felines (originally filled with paste) set with glass and garnet cabochons. Bands of rectangular garnet inlays around the necks of the animals and across the fan-shaped headplate. Drilled garnets in the headplate knobs, hedera and palmette-shaped garnet stones on the footplates. Bird-headed quadrupeds repoussé at the base of the footplate.

See Cat. no. 63. London 1930, 95, R.5 (2), pl. xxv; Roth 1979, 136, 45a, b

67. Pair of Disc Fibulae, gold, garnet, rock crystal (Colour Pl. V.1, 2; Figs 51a, 51b)
Second Hoard, Simleul-silvaniei (Budapest nos 122/1895, 8)
D: 10.3 and 10.7 cm

High, domed brooches, their sheet gold bases with repoussé open-mouthed quadrupeds below V-shaped clusters of round garnet cabochons, two loops at the bottom rim of each for the suspension
of pendants. The tops set with circular cloisonné panels with plates forming a monogrammatic cross with an alpha and omega beneath the arms. A bean-shaped plate at the top, the arms set with rhomboids, the upper and lower fields with triangular, rectangular and trapezoidal plates, cabochon rock crystal in the centres. The two panels not a matched pair in quality or design, with the lower fields of one brooch forming a mirror image of the other. Plain gold foils.

See Cat. no. 63. *London 1930, 95, R.5 (1), pl. xxiv*

68. *Fibula*, gold, onyx, rock crystal, cornelian, glass (*Fig. 53; Colour Pl. VI.1, 1a*)
Second Hoard, Simleul-silvaniei (Budapest no. 122/1895, 1)
L: 17.1 cm x W: 11.4 x D: 9.6 cm

Variant of a crossbow *fibula* set with a large banded onyx surrounded by a cloisonné zone of small rectangular garnet and green glass inlays. The bevelled sides of the onyx drilled with shallow cylindrical sections, inlaid with gold cells containing garnet plates. The foot plate mounted with two cornelians, one green glass and one rock crystal cabochon; two rock crystal and one glass cabochon along the top crossbar. All cabochons surrounded by granulation. Plain gold foils under the glass inlays; paste only below the rock crystals.

See Cat. no. 63. *Roth et al. 1979, 136, 46a*

69. Pair of *Fibulae*, silver, gold, garnet (*Colour Pl. VII.1*)
Second Hoard, Simleul-silvaniei (Budapest nos 122/1895 11-11a)
L: 12.6 cm

Bows and footplates set with alternating green glass and garnet triangles. Headplate set with circular stones and glass in band cloisonné, alternating with notched rectangular garnets; three arms extending from the bow repeat this pattern. Irregularly-shaped cabochons and four poorly-shaped cabochon bars, all surrounded by beaded wire, fill the remaining space. The plates underlain with scored gold foils; most of the cabochons set above plain foils.

See Cat. no. 63. *Ambroz 1966, 86-7, fig. 5,4*

70. Pair of *Fibulae*, silver, gold, garnet (*Fig. 55*)
Second Hoard, Simleul-silvaniei (Budapest nos 122/1895, 14 (sic))
L: 16 cm

A row of rectangular garnets along the bow; oval, round, teardrop and irregularly shaped cabochons on the foot and headplate, surrounded by filigree wire against a granulated ground. Larger stones on footplates polished with median ridges; one section of a curved cabochon bar mounted above bow on right hand *fibula*. Plain gold foils.

See Cat. no. 63. *Ambroz 1966, 86, fig. 5,3*

71. Pair of *Fibulae*, silver, gold, garnet,
Second hoard, Simleul-silvaniei (Budapest nos 122/1895, 12-12a)
L: 17.4 cm

Rows of square or rectangular garnets along the bow with groups of triangular, trapezoidal and irregular squares set in half-hexagonal-shaped panels where the bow meets the head and footplates.
Surface decorated with irregular cabochons surrounded by beaded wire; filigree wire spirals across the surface. All garnet plates set above scored gold foils; the cabochons set without foils.

See Cat. no. 63

72. **Pair of Fibulae**, silver, gold, garnet (*Colour Pl. VII.2*)
Second hoard, Simleul-silvaniei (Budapest nos 122/1895, 13-13a)
L: 18.4; 18.1 cm

Borders of zig-zag triangles around the head and foot plates, shifting to parallel rows near the bows. The bows decorated with circles in band cloisonné alternating with notched rectangles. Two individual quatrefoils and groups of three flat circular plates soldered on the foot and head plates; also semicircular plates on either side of drilled garnet circles at the tips of the footplates. Diamond-shaped, semicircular and oval cabochons on the remaining surface, surrounded by beaded wire and a sparsely granulated gold sheet. All of the garnets underlain with scored gold foils.

See Cat. no. 63. *Ambroz 1966, 87, fig. 5,5*

73. **Pair of Fibulae**, silver, gold, garnet,
Second hoard Simleul-silvaniei (Budapest nos 122/1895 3-3a)
L: 22.6, 24.8 cm

Rows of square plates along the bows and down the centres of the footplates; round cabochons along the sides of the bows. Panels of triangular plates where the bow meets the foot and head plates. Rows of rectangular plates radiating from these panels terminating in circular cells set with triangular inlays. Oval, triangular, diamond and bar-shaped cabochons, many with flat surfaces and bevelled edges, surrounded by beaded wire decorating the sparsely granulated surface. Foot and headplates edged with twisted wire. Plain gold foils.

See Cat. no. 63. *Ambroz 1966, 87, fig. 6,1*

74. **Pair of Fibulae**, silver, gold, garnet
Second Hoard, Simleul-silvaniei (Budapest nos 122/1895 2, 2a)
L: 24.6 cm

Small rectangular garnets along the median ridge of the bows, round cabochons along the sides; the head and footplates set with irregular cabochons, surrounded by beaded wire against a sparsely granulated ground. Four circular sections set with green glass and garnet triangles; a quatrefoil shape also mounted on the surface. Both *fibulae* surrounded by braided filigree wire. Plain gold foils. One of pair damaged.

See Cat. no. 63.

75. **Pair of Fibulae**, silver, gold, garnet
Porshino, Orel Region, Russia (location unknown)
L (app.): 12.8 cm

Plate *fibulae* with applied sections of cloisonné at either end of the bow. The crescentic-shaped top sections with triangular inlays, the heart-shaped bottom sections with triangular and rectangular inlays. Cabochons, including cabochon bars, across the surface in individual settings. Braided wire
around the head and footplates. Animal-headed terminals.

Accidental find in 1940, together with a ring set with a cabochon garnet.

*Rybakov 1953, fig. 5.2; Gaydukevich 1971, 485, fig. 143; Zasetskaya 1982, 22, 30, fig. 7*

76. *Fibula*, gold, silver, garnets
Village of Pashkova, near Nezhina, Chernigovskoi Province, Soviet Ukraine (State Hermitage Museum, Leningrad, no. 2117/1)
L: 13.8 x W: 7.5 cm

A row of rectangular garnets along the bow; irregular oval, square, round and triangular cabochons surrounded by twisted wire on the head and foot plate. Overall border of flattened twisted wire. Double terminal knobs at the sides.

Found in 1873, reportedly with coins dating to the second and third centuries (de Baye 1890a, 370).

*Kondakof, Tolstoi and Reinach 1891, 147, fig. 175; De Baye 1890a, pl. 7; Rybakov 1953, fig. 5.4; Zasetskaya 1975, no. 91, 76-7*

77. *Fitting*, gold, garnet (Fig. 56)
Olbia, Soviet Ukraine (The State Hermitage Museum, Leningrad)
H (app.): 6.0 x W: 3.9 cm

A gold plate with rounded head and split flaring tips, with a central cross-shaped pattern of square or rectangular garnet plates; irregular cabochons on the sparsely granulated gold ground. A surrounding rim of granulation.

*De Linas 1878, ii, pl. C*

**Rectilinear Style, Phase II and Rectilinear and Unit Cell/Mosaic Style Combinations (Europe and Russia)**

78. *Pendant*, gold, garnet (*Pl. 6.1*)
Hesselager, Fyn, Denmark (National Museet, Copenhagen, no. 2/50)
L: 6.5 x W: 2.8 x D: 0.13 cm

Two front panels originally mounted with twenty-four rectangular garnet plates; all surviving plates drilled with circles and underlain with plain gold foils. The top section with a panel of four garnets constructed separately, and possibly removable. The garnet panel backed by four tubular sections, strengthened by cross-pieces of gold strips. The junction of the back and front concealed by beaded wire. Three worn cabochon bars, encircled by beaded wire cap the bottom.

Found in a hole in 1950 after workmen had blasted tree roots from the ground. Recovered with a loop-in-loop gold chain with animal-head terminals and buckle loops at their tips, and a leaf-shaped gold strap end. Museum officials later found a small flat silver sheet and set of six gilt silver bars with oval bosses, the latter probably from the rim of a silver vessel.

*Voss 1951, 152-65*
79. Pair of Strap Ends, gold, garnet (Pl. 6.4)  
Conceti, Soviet Moldavia (State Hermitage Museum, Leningrad, nos 928/23, 928/24)  
H: 5.2 x W: 1.6 cm

Strap ends with spatulate tips. No. 928/24 set with six rectangular garnets in a bilateral configuration, the circular plate at the tip, engraved with a circle, surrounded by triangular and trapezoidal plates in Mosaic Style I. No. 928/23 set with a double row of twelve garnets, all square except the lower two which adjoin the circular centre plate; the circular garnet and the bottom four garnets of the grid engraved with circles. Two broad-headed attachment rivets at the top of each mount. Plain gold foils.

A male burial found in 1811-12 within a stone vault in a valley near the Prut River. A wooden coffin, decorated with gold fittings, contained bones with a silk tunic ornamented with gold and gems, and a crown with gold leaves and gems. To the right of the coffin, a gold platter; to the left a horse skeleton and gold harness fittings. Silver and gold vessels, a sword, a quiver with arrows, a sceptre and other ornaments reported. Surviving today are a silver amphora, a silver situla, an iron Roman army helmet, sheathed in silver, two silver lion-headed terminals and casings from a folding stool, a twisted gold torque, the strap ends and eagle fitting (Cat. no. 125) in cloisonné, a trapezoidal gold sheet over bronze set with cabochons, stamped gold leaves and various stamped and cabochon-set gold sheets from horse harness. On the circumstances of the find, Odobescu 1976, 139, 146, 487-92. A modern bibliography in Effenberger et al. 1978, 32-3.

See Cat. no. 125. De Linas 1878, ii, 228, pl. C.7; Matsulevich 1929, 129, fig. 37; Alfoldi 1932, 59, 77-78, pl. 20; Bloșiu 1974, 66, pl. 1.10-12

80. Strap Ends, silver (Fig. 58)  
Muslymovo, Perm, Russia (State Hermitage Museum, Leningrad no. 1697/18-19)  
L: 4.4 and 3.3 x W: 1.2 cm

Pair of strap ends with spatulate tips and cellwork composed of triangles set tip to back. Granulated border. All inlays missing.

Accidental find, 1895, together with the following gold items: a plain torque, pommel, hilt and scabbard fittings, stamped rectangular sheets. Silver gilt objects included two cloisonné strap ends and a buckle (Cat. nos. 87 and 88), a round cloisonné stud, two studs set with cornelians. In silver alone, a crescentic fitting, two rein distributors, a silver sheet, two buckle loops and three plain buckles with studs and a fibula. Fragmentary iron sword blade.

See Cat. nos 87 and 88. OAK 1897 (1895), 73, fig. 187; Fettich 1951, 192, pl. xviii.4, 5; Werner 1956, pl. 59.10; Zasetskaya 1975, 57, no. 42.

81. Two Strap Ends, gold, garnet  
Tarkhanskaya Road, Kerch, Crimea (State Hermitage Museum, Leningrad)  
L: 3.8 x W: 1.0 cm

Long mounts, each set with a a row of five rectangular stones, horizontally placed. Hinged bottom sections with spatulate tips set with garnets.

Accidental find in 1914, together with a pair of small gold buckles with bean-shaped plates, each set with four garnets.

OAK 1913-15
82. Four Strap Ends, gold, garnet, silver (Fig. 59)
Szeged-Nagyszéksós, Hungary (Móra Ferenc Múzeum, Szeged, no. A.55.138.9, 10)
L: 2.5 - 3.3 x W: 1.5 - 1.1 cm

Two short and two long strap ends with flared tips. The top sections divided bilaterally and set with square or rectangular stones. Silver foils. Silver rivets concealed beneath the inlays.

The first objects discovered before World War I in a vineyard south of Kisszéksós Lake, owned by Mathias Balint, but nothing preserved until 1926, when a few items were acquired by a private collector (J. Flessig) and the museum in Szeged. Excavations by Móra Ferenc produced another ninety-three objects. Additional items confiscated from a jeweller in Szeged in 1934, leading to further excavations in the vineyard. Two items acquired by Bliss, now in the Dumbarton Oaks Collection. The Flessig collection destroyed during World War II. Two further items donated to the Szeged Museum in 1965 and 1966 by the Balint family. The electrum cup and the fragmentary omphalos bowl in the collection of the Magyar Nemzeti Múzeum in Budapest; the remainder of the find in the Móra Ferenc Múzeum in Szeged.

Many items apparently melted or damaged by fire. In addition to the many small strap ends, buckles and fittings in gold and garnet cloisonné, the finds included sheets of gold set with bluish-white stones, gold garment plaques, a gold torque, an openwork electrum cup originally set with gems or glass, fittings from a wooden omphalos cup, and numerous fragmentary stamped and engraved sheets of gold. Kürti proposes a series of possible functions and reconstructions of the cloisonné objects and gold sheets as follows: a belt, boot buckles, a sword, a dagger, two knives, a bow, a whip, and two sets of horse harnesses and saddles (Kürti in Menghin 1987, 163-66)

Alfoldi 1932, pl. xv.49-51; Fettich 1953, pl.i.16-17; Menghin 1987, 178-9, iii.6, 24

83. Rectangular Panel (? Scabbard Mouthpiece), gold, garnet, silver (Fig. 60)
Szeged-Nagyszéksós, Hungary (Móra Ferenc Múzeum, Szeged, no. A.55.138.15)
L: 8.8 x W: 1.5 cm

Fitting with lobed tips. The centre set with nine triangular plates, flared thumbnail-shaped plates at the lobed ends. Scored silver foils. Concealed studs at the lobed tips and in the centre.

Two similar fragmentary fittings in the Móra Ferenc Múzeum; another similar fragmentary fitting in the destroyed Flessig collection, perhaps additional horizontal scabbard fittings.

Alfoldi 1932, pl. xv.61; Fettich 1953, pl. 11.3; Menghin 1987, 178, iii.5

84. Strap End, gold, garnet (Pl. 6.2)
Crimea (Kerch?) (British Museum, London, no. 1923.7-16.12)
L: 2.2 cm

Strap end with lobed tips on either side of a small circular plate. Four triangular plates set in an X-pattern in the upper section, a notched rectangular plate below.

See Cat. no. 55. Dalton 1924, 259-62; Tait 1976, 103, 247, pl. 226a; Menghin 1987, 112, i,16.1, colour pl. 1

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85. Fitting, silver, gold, garnet (Pl. 6.3)
Mestechko Kuchuchugury, Aleshki, Soviet Ukraine (State Hermitage Museum, Leningrad, no. 2118/3)
H: 2.5 x W: 2.6 cm

Lunular fitting set with circular cells in band cloisonné. One triangular and two circular garnet plates drilled with ring-and-dot motifs. Four notched trapezoids remaining, drop-shaped cells empty. Silver backing panel of the same shape.

Accidental find in 1887, with the following gold ornaments: a twisted torque, a solid hoop earring, two sheets set with cabochon cornelians and granulation, three strap ends set with cornelians (two with cylindrical bottoms), one long, leaf-shaped strap end, a looped tab, a buckle plate, two studs.

Zasetskaya 1975, 61, no. 56

86. Strap End, gold, garnet (?), glass (Fig. 61)
Kurgan no. 2, Utamysh, on the Inchkhe-Ozen River, Soviet Dagestan (location unknown)
H (app.): 2.3 x W (app.) 1.6 cm

Strap end with a cylindrical bottom, the section set with a panel composed of alternating squares of garnets or red glass and green glass or malachite; granulation around the panel and two rows of triangular clusters of granulation set tip to tip across the cylindrical bottom.

Excavated from a male grave together with a gold buckle loop, a plain gold strap end with a cylindrical bottom, a gold buckle, a silver leaf-shaped strap end, a silver crescentic fitting, a silver strip fitting, a long silver stud and a bronze stud.

Kotovich et al. 1980, 57, fig. 106

87. Two Strap Ends, bronze, gilt, gold, garnet, green glass (Fig. 62)
Muslymovo, Perm, Russia (State Hermitage Museum, Leningrad, no. 1697.20)
H: 2.1 x W: 1.8 cm

Strap ends with cylindrical bottoms, the top panels divided into four quadrants separated by thin sections of green glass. The four corner garnets notched to accommodate two central garnets.

See nos 80 and 88. OAK 1897 (1895), 72, fig. 185; Fettich 1953, 192, 131, pl. xviii.1, 2; Werner 1956, 84, pl. 59.7; Zasetskaya 1975, 55, no. 39

88. Buckle, bronze, gilt, gold, garnet, green glass (Fig. 63)
Muslymovo, Perm, Russia (State Hermitage Museum, Leningrad, no. 1697.22)
L: 3.7 x W (of plate): 2.8 cm

A bean-shaped buckle plate set with a row of square garnet plates around the edge, enclosing two flattened circular plates in band cloisonné. Two curved inlays in green glass on either side of the circular plates. A granulated border.

See nos 80 and 87. OAK 1897 (1895), 73, fig. 186; Fettich 1953, 192, 131, pl. xviii.3; Werner 1956, 84, pl. 59.6; Zasetskaya 1975, 56, no. 40

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89. Strap End, gold, garnet (Fig. 64)
Pécs Üszög, Hungary (Janus Pannonius Múzeum)
H: 2.1 x W: 2.1 cm

A square sheet of gold with an attached panel of five rectilinear garnet inlays.

See Cat. no. 131. *Hampel 1900, 105, no. 20; Alfoildi 1932, 76, pl. iii.2*

90. Buckle, gold, garnet (Pl. 6.5)
Kerch, Crimea (State Hermitage Museum, Leningrad, no. 1821/25)
L: 5.0 x W: 2.4 cm

Buckle plate with a border of rectangular plates set around triangular plates in a zig-zag pattern down the centre.

*Unpublished*

91. Scabbard Fitting, gold, garnet (Fig. 65)
Untersiebenbrunn, Austria (Kunsthistorisches Museum, Vienna No. U15)
L: 6.0 x H: 0.8 x D: 0.35 cm

Rectangular panel with seven cells of unequal size. Five poorly-shaped plates surviving. Six attachment loops located at the ends and middle on both sides.

A burial with the bones of a young (20-24 year-old) woman with severe coxitis (inflammation of the hip joint) found in 1910 in the fields in Untersiebenbrunn in Lower Austria. The large grave inventory included a pair of bow *fibulae* set with cabochon garnets, two silver plate *fibulae*, a loop-in-loop gold chain with a cloisonné pendant (Cat. no 92), a loop-in-loop gold chain with long conical hangers, two gold bracelets with animal head-terminals, a plain gold torque, two spherical gold earrings, two gold rings, one set with a garnet over patterned foil, a garnet cloisonné buckle, a silver hairpin, toilettry implements, a broken nomadic-type mirror, the silver gilt fittings from two sets of horse harness, and two glass vessels.

*Kubitschek 1911, 42, pl. i.8, fig.10; Keller 1967, 110-11; Noll 1974a, 77, pl. 52; Menghin 1987, 344, vii.33.1, pl. 48*

92. Necklace Pendant, gold, garnet
Untersiebenbrunn, Austria (Kunsthistorisches Museum, Vienna, no. U6)
L (of necklace): 39.4 cm

Panel set with four garnet plates, the centre two rectangular, the outer triangular and semicircular. Beaded wire border. Suspended on a loop-in-loop gold chain.

See Cat. no. 91. *Kubitschek 1911, 41, pl. i.4; Menghin 1987, 343, vii.33.e, pl. 46*

93. Scabbard Mouthpiece, gold, garnet (Fig. 66)
Sulino, region of the Don, Russia (location unknown)
L: 5.1 cm

Double row of eleven square garnet inlays in a fitting surrounded by granulation or beaded wire (?)
94. Scabbard Mouthpiece and/or Chape, gold, garnet (Fig. 67)
Southern Russia (? Bosphorus) (location unknown, State Hermitage Museum, Leningrad?)
L (app.): 5.9 x H: 2.8 cm

Two cloisonné panels mounted on a gold sheet. The top one composed of fifteen irregular square garnets below a zigzag row of cells set with triangular plates. The bottom panels identical except the triangles are larger and the bottom row composed of rectangles.

De Linas 1878, ii, pl. C; Odobescu 1976, 134, 140 (52, 58), fig. 13c.

95. Sword Guard, gold, garnet (Fig. 68a)
Tomb 1726, Arcy-Sainte-Restitue (Aisne), France (Musée des Antiquités Nationales, Saint Germain-en-Laye)
L: 6.6 x H: .8 cm

Guard composed of thirteen rectangular garnets in a row. The garnets curved on the reverse. Thick, plain gold foils, no cement or paste. Two garnets missing.

Male tomb, probably disturbed, investigated in 1878 by Moreau. Skeleton orientated with head west, feet to the east. The sword along the right leg, a fragment of a spur at the feet; a knife and a silver buckle loop with a square garnet plate on the tongue found on top of the skull. The spatha with a silver chape, a bronze scabbard mouthpiece with oval green glass and garnet auxiliary cells, a glass sword bead and a gold sheet stamped with a rhomboid pattern.

Laur-Belart 1938, pl. 54.9; Behmer 1939, 82, pl. xiv.3; Böhner 1948, 222, pl. 38.3; Amiens 1986, 138, no. 72, figs 99, 100; Menghin 1983, 219, no. 47; Vallet 1988, 49-54, figs 5-8

96. Buckle, gold, garnet (Colour Pl. VIII.1)
Dunapataj-Bödpuszta (Bakodpuszta), Hungary (Magyar Nemzeti Múzeum, Budapest, no. 19/1860.4)
L: 6.5 x W: 3.0 cm

Buckle plate with six rectilinear cells, two garnet plates still intact; two curved cell sections at back end. Large-headed colleted pins at either side and the back, attached to a backing sheet of larger size than the cloisonné panel.

See Cat. no. 105 for circumstances of find and additional bibliography. Hampel 1971, ii, 1-2, iii, pl. 1.3; London 1930, 96, R.6 (8), pl. xxiii; Fettich 1951, 120-3; Menghin 1987, 120, 193, no. iv.4.d

97. Buckle, bronze, gold, green glass (Fig. 69)
Voskhod collective farm, near Engels (formerly Pokrovsk), Saratov region, lower Volga, Russia (Central Museum, Engels)
L: app. 6.5 cm

A bronze buckle plate set with six square inlays of green glass in gold cellwork.

See Cat. no. 139. Werner 1956, pl. 40.7
98. Horse-headed Pendants, gold, garnet (Pl. 16.1)
Apahida I, Romania (Muzeul de Istorie al R.S. Romania, Bucharest 6791 and Magyar Nemzeti Múzeum, Budapest)
H: 16 x W: 1.8 cm

Six pendants worked in the form of horse heads seen from the front and sides, with open mouths, their eyes and ears set with oval plates surrounded by beaded wire, the cylindrical tops set with rectangular garnet plates. The bottom edges of their mouths set with small rectangular plates, at the base of which are suspended three to five loop-in-loop chains with bell attachments at the ends.

See Cat. nos 149-51. Findly 1889, 305-20; Fettich 1953, 146, xxi.3, 3a, xxiii.1-5; Kiss 1987, 193-217

99. Buckle, gold, garnet (Fig. 74)
Beja, Baixo Alentejo, Portugal (Museu Rainha D. Leonor, Beja)
L: 2.8 x W: 2.4 cm

Buckle loop with curved panel of small rectangular garnets around the tongue and two rows of small square and trapezoidal garnets around the loop. The loop D-shaped in section.

See Cat. nos 109-10. Raddatz 1959, 149, pl. 60.3; Dannheimer 1961, 466-7, fig. 1.1; Koenig 1981, 349, pl. 52b; Pidal et al. 1985, fig. 518.3

100. Seax Pommel, gold, garnet, glass (Pl. 14.1)
Blučina, Czechoslovakia (Moravské Múzeum v Brně, Brno, no. 205757)
H: 2.2 x W: 2.0 cm

Fitting with a rectangular base and an elliptical top. The bottom set with five square garnets surrounding a square plate of green glass. The top set with a circular garnet engraved with a ring, surrounded by curved plates. Beaded wire rim.

See Cat. nos 120, 137, 146 below. Tiheka 1963, 489-90, fig. 7.2; Menghin 1983, 183, no. 3; Menghin 1987, 375, vii,13.e, pl. 56

101. Snaffle Bit Cheekpiece, silver, gold, garnets (Fig. 70)
Kudenetov (Kudenitov), Kabardino-Balkarskaja, Soviet Abkhazia (The State Hermitage Museum, Leningrad, Oriental Department)
L: 14 cm

Silver base set with gold cloisonné cell-work. Front end set with a row of cabochon bars, terminating in a bird head with a cabochon eye and curved beak. Section behind the swivel bit set with two rows of zigzag triangles, matched by two vertical cabochon bars at the end. Large granules of gold surrounding the cloisonné panel, row of cabochon bars and bird head.

Found in a tumulus burial near the village of Kudenetov in 1887. Grave goods included two hinged cloisonné plaques (Cat. no. 122), four small cloisonné fittings in the form of fibulae, a circular cloisonné fitting, two small gold bells, fragment of a silver finger-ring, a large gold buckle, a pair of hinged buckle, one hundred and four gold plaques, seven decorated bronze plaques.
102. **Fibula**, gold, garnet (Fig. 72)
Mainz region, Germany (location unknown)
L: 7.2 cm

Bow fibula with polyhedral knobs set with triangular plates and a footplate set with one rhomboidal plate and triangular plates. Grooved bow, short spiral spring and horizontal footplate.

Single find from a gravefield.

Lindenschmidt 1881, pl. 4.1; Dannheimer 1962, fig. 2.3; Schulze-Dörrlamm 1986a, 628-9, 700, 715, fig. 40.2

103. **Seax Scabbard Mouthpiece**, gold, garnet (Fig. 71a, Pl. 6.6)
Pouan (Aube), France (Musée des Beaux Arts et d’Archéologie, Troyes)
H (app.): 1.9 cm

Mouthpiece composed of six rectangular garnet inlays, each matched with a triangular plate mounted tip downwards at the bottom.

Found in 1842 near gravel works on the banks of the Aube together with a gold-handled *spatha* with cloisonné fittings (Cat. no. 147), two cloisonné buckles with hexagonal cells on the plates, a small belt tab with a circular garnet plate, a buckle with three triangular garnet plates on the plate, two gold buckle loops, a gold torque with ring and dot decoration, a gold armring with thickened terminals, a gold ring inscribed 'HEVA', a small gold ornament in gold sheet and paste technique.

See Cat. nos 104, 106, 147. Peigné-Delacourt 1860, 206, pl. ii.14-15; Behmer 1939, 59, pl. vi.2; Salin and France-Lanord 1956, 65-75, fig. 9; Böhner 1948, 229, pl. 39.2; Werner 1956, 42, 44; Odobescu 1976, 138 (56), fig. 21.j; Mainz 1980, 195-6, no. 305a; Kazanski 1982, 25-9; Menghin 1983, 27, 180-2, no. 2.2; Pollino et al. 1987 126-34, nos 26-9

104. **Seax Scabbard Chape**, gold, garnet (Fig. 71b; Pl. 6.6)
Pouan (Aube), France (Musée des Beaux Arts et d’Archéologie, Troyes)
L (app.): 4.2 cm x H: 3.0 cm

The chape with three registers of inlays, the top with triangular plates in a zig-zag pattern, the middle one with four rhomboids and auxiliary triangles, and the bottom one with six rectangles. Plain gold foils.

See Cat. no. 103.

105. **Pair of Armrings**, gold, garnet *(Colour Pl. VIII.1)*
Dunapataj-Bödpuszta (Bakodpuszta), Hungary (Magyar Nemzeti Múzeum, Budapest, nos 19/1860.1, 91, 92)
Diam: 8.5 cm

The bracelets with animal-headed terminals mounted with panels of five convex rectangular stones
with corresponding triangular plates set below them. The animal’s eyebrows set with thin curved cabochon bars. Pin hinges.

Two skeletons discovered together in 1859 during the construction of a foundation for a school in Bődpuszta, oriented W/E, in a shallow grave; a third skeleton was found 5.7 metres away. Grave goods of the two graves included a pair of gold polyhedral ear-rings (inlays missing), a loop-in-loop chain necklace with hangers composed of triangular garnet plates and long conical pendants, a necklace of round garnet beads alternating with crescentic and heart-shaped garnet plates, four garnet cloisonné rings, a cloisonné belt buckle (Cat. no. 96), gold garment plaques and a clay vessel.

Hampel 1971, ii, 1-4, i, figs. 957, 1180, 1238-40; London 1930, 96, R.6 (3), pl. xxvi; Fettich 1951, 120-6, 159, 185, 188, pls xv-xix; Bónica 1968, 118-19; Kiss 1983, 104; Odobescu 1976, 35, 140 (53, 58), fig. 14h; Menghin 1987, 120, 193, iv,4.d.

Unit Cell Style and Mosaic Style I, Phase II (Europe and North Africa)

106. Seax Pommel, gold, garnet (Fig. 76; Pl. 6.6) Pouan, (Aube), France (Musée des Beaux Arts et d’Archéologie, Troyes)
L (app): 3.3 cm

Heart-shaped panel, bilaterally symmetrical, with two circular plates per side, the lower ones centred in the field in Mosaic Style I. Two oval plates at the bottom with curved and notched rectangular auxiliary plates. Plain gold foils.

See Cat. nos 103, 104. Peigné-Delacourt 1860, 2-6, pl. ii.16-17; Salin and France-Lanord 1956, 65-75, fig. 9; Werner 1956, 42, 44; Odobescu 1976, 138 (56), fig. 21.2; Mainz 1980, 195, no. 305b; Kazanski 1982, 25-9, pl. D2; Menghin 1983, 27, 180-2, no. 2; Arrhenius 1985, 127-9, fig. 44; Pollino et al. 1987, 126-34.

107. Buckle, gold, garnet (Fig. 77)
Nagydorog, Hungary (Béri Balogh Adám Múzeum, Szekszárd)
L: 6.6 cm

Rectangular plate with two oval plates centred in the fields, separated by a rectangular plate and surrounded by notched rectangles. Three triangular plates set at the end near the tongue. Tongue terminating with an animal head, the ear inlaid with triangular plates, the cylindrical base of the tongue set with rectangular plates. Four rivets at the corners on the plate. Scored gold foils beneath the garnets. Solid oval loop, round in section.

Roth 1979, 130, 33a

108. Buckle, gold, garnet (Fig. 78)
Hungary (Shelby White and Leon Levy Collection, New York)
L: 7.6 x W (of loop): 4.7 cm

Buckle plate with a Mosaic Style I design of two circular plates above a notched heart-shape and two oval cells, notched rectangular auxiliary plates. Attachment rivets in the corners. The tongue ending in an animal-head with ears and neck inlaid with oval garnet plates, eyes with cabochon
garnets; the loop composed of two similar animal heads. All garnets on the plate replaced, others on animal head restored.

Hotel Druout, Collection Geza von Kárász, Paris, 11 April 1890, lot 11, pl. 2.4; Tysziewicz 1898, 69, pl. xxi.192; London 1930, 73, no. 24; Volbach, Salles and Duthuit 1933, 61, pl. 54.G; Rupp 1937, pl. xi.7; Coche de la Ferté 1962, pl. xix; Sotheby's, Antiquités et objets d'art, Collection Martine, Comtesse de Behague, Monaco, 5 December 1988, lot 52; von Bothmer 1990, 259, no. 191

109. Sword Guard, silver, gilt, garnet (Fig. 75)
Beja, Baixo Alentejo, Portugal (Museu Rainha D. Leonor, Beja)
L: 12.6 x W: 2.5 cm

Fragmentary guard from a longsword set with a row of rhomboidal garnets with triangular auxiliary cells, set in silver gilt cellwork. Two small studs set with garnets (?) on the hilt.

From a brick-tiled grave in a Roman necropolis outside Beja. Purchased together with a sword bead, two buckles (Cat. nos 99, 110), and loop, and a sword bead set with a single garnet cabochon. The iron blade originally in a wooden scabbard. Koenig publishes the correct grave inventory.

See Cat. nos 99, 110. Raddatz 1959, 144-5, 149, fig. 1, pl. 60; Dannheimer 1961, 466-7, fig. 1.4; Koenig 1981, 346-50, fig. 20, pl. 51a; Menghin 1983, 95, pl. 47

110. Buckle, gold, garnet, glass (?) (Fig. 73)
Beja, Baixo Alentejo, Portugal (Museu Rainha D. Leonor, Beja)
L: 5.5 x W: 2.5 cm

Buckle plate set with a single large cabochon garnet, loop composed of circular cells in band cloisonné separated by notched trapezoids; the animal-headed buckle tongue set with narrow cabochon bars.

See Cat. nos 99, 109. Raddatz 1959, 145, pl. 60-2; Dannheimer 1961, 466-7, fig. 1.1; Koenig, 1981, 347-9, pl. 52a; Pidal et al. 1985, fig. 518.1

111. Fibula, gold, hessonite garnet or glass? (Fig. 80)
Constantine/Cirta, Algeria (Musée de Constantine (Cirta), Ksantina)
Exact dimensions unknown

A fragmentary bow fibula, the footplate set with rectangular "chestnut-brown inlays" around a long tabular cell (empty). On the bow an empty rhomboidal cell centred in a rectangular field in Mosaic Style I. Headplate missing.

Found in the spoil heaps beside a grave with a headstone inscribed to the "goldsmith Praecilius" together with a buckle plate set with rectangular cells (Fig. 79).

Doublet and Gauckler 1892, 54; Camps-Fabrer 1970, 152-3, fig. 214; Koenig 1981, 314, fig. 7c.d; Gerhartz 1987, 85, 100, fig. 172

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112. **Pair of Fibulae**, gold, garnets, pearls (Fig. 81)
Koudait-Zateur, Carthage, Tunisia (Musée National du Bardo, Tunis)
L: 6.5 cm

Pair of bow brooches, the headplates, bows and footplates set with pearls in a Mosaic Style I pattern, surrounded by notched rectangular garnet plates. A border of spirally-wound wire.

Female interment found in 1915 in a white marble sarcophagus. Grave goods consisted of two gold earrings with round hoops; a gold cloisonné buckle (Cat. no. 113); a necklace of pearls, emeralds and garnets with a cloisonné clasp (Cat. no. 114); a gold *fibula* with a returned foot; a gold finger-ring with a square bezel engraved with a bird, a palm branch and a star; an octagonal gold finger-ring inscribed X/N/B/K/Δ/Ο; a gold finger-ring with shoulders in the form of dolphins, their heads flanking a gem; thousands of small gold tubes, one hundred and sixty-nine gold garment plaques, twenty-eight inlaid with garnet plates, two with rock crystal, the remainder square with an embossed rosette.

See Cat. nos. 113, 114. *Rostovtzeff* 1923, 150-3; *Koenig* 1981, 308-9, pl. 49; *Cacan de Bissy and Petit* 1982, 192, no. 255, colour pl. p. 193, with full bibliography; Gerhartz 1987, 85, 100, fig. 173

113. **Buckle**, gold, garnet, glass (Fig. 82)
Koudiat Zateur, Tunisia (Musée Nationale du Bardo, Tunis)
L: 5.4 cm; wgt. 50 gr

Buckle with a plate set with four oval garnet plates around diamond-shaped inlay in decayed green glass. Scored foils.

See Cat. no. 112. *Cacan de Bissy and Petit* 1982, 192, no. 254

114. **Necklace Clasp**, gold, garnet, white inlay (Fig. 83)
Koudiat Zateur, Tunisia (Musée National du Bardo, Tunis)
Diam: 2.7 cm

Roundel set with tapering rectangular cells in the form of a cross; a "P", *alpha* and *omega* in white inlay in three of the fields between the arms, forming a *chi-rho*. Notched triangular and rectangular auxiliary cells.


**Cabochon Bar Style**

115. **Sword Guard**, bronze, paste, gold, garnet (*Colour Pl. VIII. 2; Pl. 7.1, 1a*)
Altlsruheim, near Mainz, Germany (Badisches Landesmuseum, Karlsruhe)
L (cloisonné framework): 10.4 x H: 4.2 cm; L (bronze casing): 10.9 x H: 4.3 cm

Framework cloisonné composed of three registers of heart-shaped plates, flanked by cabochon bars on either side and divided by them down the middle. The heart plates surrounded by triangles and notched rectangles, the latter positioned so that each encompasses two heart-shapes. Plain gold foils. One heart plate, one notched rectangle and one triangle replaced with glass inlays. The bars
probably pieced together from sections of stone. The cloisonné framework set into a bed of cement within a bronze casing.

Found in 1932 in the high gravel banks above the Rhine outside Altliusheim. Subsequent examination of the bone material revealed a double (male and female) burial. The sword found together with a plain gold scabbard sheet with a median ridge, a chape of lapis lazuli, silver chape scabbard fittings, a bronze gilt scabbard slide with an animal head and a silver gilt buckle. A seax (short sword) also included in the burial.

Garscha 1936, pls 38-40; Behmer 1939, pl. xiv.1; Böhmer 1948, 231, pl. 39.3; Werner 1956, 40-43, 88-91, pls 1-3, 58.4; Garscha 1960, 315-18, fig. 1, pl. 60.1-3; Hubert, Porcher and Volbach, 1969, 215, no. 225; Christlein 1978, 69, pl. 41; Mainz 1980, 192, no. 299; Tomka 1986, fig. 23.9; Kazanski 1988, 76, 78, fig. 3.1

116. Sword Guard, Mouthpiece and Hilt Section, bronze or iron, paste, gold, garnet (Fig. 84)
Southern Russia, Taman? (Museum für Ur-und Frühgeschichte, East Berlin)
L (app.): 12.0 x H: 7.0 cm

The guard in framework cloisonné with three registers composed of rhomboids in the centre and half-circles along the top and bottom, flanked and divided by three long cabochon bars. The mouthpiece with five circles and two curved sections at the outer ends forming bird beaks. The hilt section divided by an X and set with triangular and semi-circular cells. Cellwork obscured by heavy corrosion.

Found with a chalcedony sword bead, incorrectly reconstructed as a pommel by Böhner, and following him, Kazanski.

Garscha 1936, 195, fig. 41.3; Laur-Belarti 1938, 135, pl. 54.4; Behmer 1939, 80-1, pl. xii.4; Böhmer 1948, 225-6, fig. 2.4; Tomka 1986, fig. 23.6; Menghin 1987, 107, 1.12.a; Kazanski 1988, 76, 78, fig. 3.4

117. Sword Guard and Hilt Fitting, (?)bronze, gold, garnet (Fig. 85)
Vol’naya Voda (Dimitrievka), Bedryansky region, Taurian province, Russia (location unknown)
L (app.): 11.0 x H: 5.0 cm

The guard with three carved garnet bars at the outer edges and down the middle. Two registers the lower with a row of tabular plates, five to each side, the upper with rectangular plates broadly notched across the bottom and with small notches along the sides. The hilt fitting with four tabular and four notched rectangular plates in the same configuration.

Found with a chalcedony sword bead.

OAK 1904 (1907), 123, fig. 15; Garscha 1936, 195, pl. 41.2; Behmer 1939, 80-1, pl. xiii.1; Böhmer 1948, fig. 2.5; Werner 1956, 122; Garscha 1960, 316, fig. 2; Tomka 1986, fig. 23.1; Kazanski 1988, 76-8, fig.3.3

118. Fragmentary Inlay Panel from a Sword Guard, gold, garnet (Fig. 86)
Burial no. 479, Dyurso River, Novorossiysk, Soviet Abkhazia (location unknown)
L (app.): 11 cm

Fragmentary panel of gold cellwork and garnet inlays. The garnet inlays in tabular shapes with one
carved cabochon bar surviving. The stones curved on the backside. Gold or gilt silver foils; cement filling surviving on the back side.

Dmitriev 1979, 223; Tomka 1986, fig. 23.3; Kazanski 1988, 76, 78, fig. 3.5

119. Sword Guard, iron, gold, garnet, cement (Fig. 87)
Provenance unknown, possibly Kerch (The State Hermitage Museum, Leningrad, no. 2109/36, Alekseev collection)
L (iron casing): 10.5 x H: 2.7 cm, L (cloisonné panel): 9.6 x H: 2.4 cm

Two framework cloisonné sections, bilaterally divided and flanked by cabochon bars. The plates set in a floral pattern, with the centre of each section marked by a small cabochon. Notched cellwork. The cabochon bars each composed of two matched sections.

See Cat. no. 133. Hermitage 1956, n.p.; Zasetskaya 1982, 21, 30, fig. 6.7

120. Seax Scabbard Chape, gold, garnet (Pl. 14.1)
Blučina, Czechoslovakia (Moravské Muzeum v Brně, Brno, no. 105740)
L: 17.2 x W: 3.5 cm

A U-shaped fitting set with garnet cabochons and plates in a laddered pattern. The rectangular plates broadly notched to match the cabochons, the latter set six to a side and one at the bottom, separated from one another by bell-shaped cells. The fitting surrounded by fine beaded wire, with attachment rivets at the corners and down the sides. Found with three small plates, individually mounted, two larger circular plates, one round and one oval cabochon, all individually mounted on the scabbard.

Excavated in 1953 on the hill called Cezavy near Blučina on the banks above the junction of the Cezava and Svratka rivers, south of Brno. A skeleton of a thirty- to forty-year-old man orientated W/E. Controlled excavation revealed the exact position of grave goods, including a silver fibula on his left chest and a set of tweezers on his breast, spatha at his right side with a sword bead and two waist buckles, fifteen arrowheads below his waist on right, a gold arm-ring with thickened terminals on his right forearm, a cloisonné waist buckle (Cat. no. 137), a seax at his left side, a set of shoe buckles (Cat. no. 146), three glass vessels of Eastern Roman type at his feet, silver fittings from a hard saddle, and possibly a whip.

See Cat. nos 100, 137, 146. Tihelka 1954, 437-41, fig. 194; Werner 1956, 40-48, pl. 22; Tihelka 1963, 471, 489-90, fig. 7.3; Menghin 1983, 183-4, no. 3; Menghin 1987, 374-5, viii,13.e

121. Casket, gold, garnet, sapphires, emerald (Pl. 7.2, 2a)
Church at Djanavar, near Varna, Bulgaria (Narodni Musej, Varna, no. III, 768)
L: 6.5 x H: 4.7 x W: 3.8 cm

Cloisonné panels around the top and bottom of the gold box with a pattern of unlinked swastikas composed of L-shaped garnet plates. The eight corners set with cabochon bars, their length equal to the height of the design (1 cm) and width equal to one half of each swastika pattern. Another cloisonné panel, set with chevron-shaped cells, attached to the sliding top lid of the box. The side walls mounted with sapphires in claw settings; four more sapphires in similar settings on the lid at the four corners of the lid surrounding a central emerald in a solid bezel.

The church, on a hill four kilometres south of Varna, excavated in 1915 by K. Shkorpil. The casket
found within three other containers in a small crypt directly below the altar. An outer wooden box held a marble sarcophagus-shaped reliquary, which contained a silver reliquary, also in the shape of a sarcophagus, wrapped in a piece of yellow silk and black fabric. Inside the gold reliquary were hand bones, portions of a shoulder bone and a fragment of wood.

Belyaev 1928b, 120-2, pl. xvii; Varna 1965, 142, no. 67; Venedikov 1965, np; Buschhausen 1971, 263-5, pl. 3, no. Cl; Hoddinott 1975, 325-9

Mosaic Style II

122. Hinged Plaques, gold, garnet (Fig. 89)
Kudenetov (Kudenitov), Kabardino-Balkarskaya (State Hermitage Museum, Leningrad, Oriental Department)
L (app.): 12.3 x W (app.): 6.1 cm

Two registers of five linked circles enclosing diamonds; the diamonds composed of oval-shaped cells around small diamond-shaped cells; auxiliary triangles around the main motifs. Low-quality gold. Constructed in the third class of framework cloisonné.

See no. 101 above. De Baye 1890a, pl. 5; Kondakof, Tolstoi and Reinach 1891, 480, 500-1, pl. 438; Fettich 1953, 148-50, pl. xxxviii.21; Werner 1956, 55, 72, pl. 62.3; Vierck 1974, 350, fig. 14.1; Harhoiu 1977, 27, fig. 17

123. Medallion, gold, garnet (Colour Pl. IX. 1, 1a)
Cluj-Someșeni, Romania (Museul de istorie al R.S. Romania, Bucharest)
Diam: 7.8 x D: 1.1 cm, wgt 65.20 gr

A circular medallion composed of two sheets joined by a band. The top framework of cells in a cross-shaped pattern, the areas between the arms occupied by circles enclosing diamonds. All stones missing from framework, but some plates recovered by the excavators. Backing sheet repoussé with a cross in a roundel with a border of undulating lines, the upright shaft of the cross undecorated, the cross arms chased with short grooves and the fields between radiating with plain and grooved panels. A border of beaded wire around the top sheet, the band between the sections mounted with granules and radiating wire pins for pearls. Two horizontal suspension loops at either side and vertical loops at the bottom for the suspension of pearls. Cement dissolved away.

The Cluj hoard, found in a clay vessel, included among other objects, three rings with garnet inlays in Mosaic Style I, two cloisonné belt buckles, one fragmentary and one complete (Cat. no. 134), polyhedral beads with garnet plates, solid gold sections of an armring and torque, two sections of loop-in-loop chain with animal-headed terminals, twelve necklace pendants in lunular and lozenge shapes, and a Roman-style finger-ring with runic markings on the interior of its hoop.

See Cat. no. 134. Horedt and Protase 1970, 87-88, fig. 3, pl. 21

124. Pendant and Earrings, gold, garnet (Pl. 8.1, 1a, 1b)
Olbia, Soviet Ukraine (Dumbarton Oaks, Washington D.C., no. 40.1.1)
L (overall) 45.0 cm; H (of pendant): 5.6 x W: 3.8 cm; L (of earrings): 6.3 cm

Oval pendant with a cloisonné framework of eight roundels around a large polygonal garnet plate. The roundels enclosing crosses and diamonds, alternating around the outer zone, separated from
one another by small tear-drop-shaped plates touching the rim. Backing sheet repoussé with a diamond enclosing a quatrefoil palmette and surrounded by larger palmette leaves; stippled ground between the leaves. Beaded wire around the edge of the backing sheet. Suspended by a cylindrical clasp set with rectangular garnets on a loop-in-loop gold chain with lion-headed terminals and circular clasps repoussé with busts in medallions.

Ear-rings with crescentic tops set with a circular plate, two curved triangles, and two green glass cabochons at each tip. These connected by loops to the teardrop-shaped elements below, each set with a notched rhomboid, set off in the field in Mosaic Style I fashion, with clusters of three garnet cabochons at the sides and tip. Additional loops at the side clusters. The backing sheets repoussé with fluting, in a fan pattern on the top element and in a leaf pattern on either side of a central rib at the bottom. Beaded wire along the edge of the backing sheets.

The treasure, found in the region of ancient Olbia near present-day Odessos, included a long pin with a hemispherical cabochon garnet head, a pair of polygonal ear-rings with twisted hoops, a pair of thin gold armrings with thickened terminals, two rings with plain hoops, a pair of finger-rings with turquoise rhomboids set within larger rhomboids with two band cells at the tips, and four small (?)dress ornaments consisting of box settings with emeralds or green glass with loops at the rear.

Von Falke 1928, 344; von Jenny and Volbach 1933, 20, pl.3; Rupp 1937 49-55, pls iv.v; Worchester 1937; Ross 1965, 117-19, pls lxix, A, F, lxx, and colour pl. G

125. Eagle Fitting, gold, silver, garnet, mother-of-pearl (Pl. 9.1, la)
Conceşti, Soviet Moldavia (The State Hermitage Museum, Leningrad, no. 928.22.53)
H: 6.7 x W: 2.6 cm

The body of the eagle set with feather-shaped garnet plates; the head with trapezoidal and triangular plates around a circular eye plate drilled with a circle. The tail section and beak set with mother-of-pearl. Plain gold foils beneath all of the stones except those at the upper part of the breast, which are underlain by foils scored with a feather pattern. Collected broad-headed pins around the edges, connected to a silver backing plate.

For circumstances of find see Cat. no. 79. De Linas 1878, ii, 227, pl. A.4; Odobescu 1976, 134, 140 (52, 58), fig.13b; Matsulevich 1929, 129-30, fig. 38; Alfoldi 1932, 77-8, pl. xx; Thiry 1939, 70, pl. 6.28; Fettich 1953, pl. xxxiii.9; Werner 1956, pl.29.6; Bloşitu 1974, 67, 71, pl. 1.14

126. Eagle Fibula, gold, garnet (Pl. 9.2)
Ossmanstedt, Germany (Museum für Ur-und Frühgeschichte Thuringens, Weimar)
H: 7.0 cm

Fibula in the shape of a bird-of-prey facing left. The body set with plates in feather shapes, with a cabochon eye and one crescent-shaped cell at the neck. The tail set with thumbnail-shaped cells. Violet-coloured garnet plates over scored silver foils. Two loops at the bottom for the suspension of pendants. The gold backing sheet decorated with a realistic representation of an eagle.

Excavated by Behm-Blancke in 1965, 350 metres northeast of city centre of Ulrichshalben, 750 metres southwest of the church in Ossmanstedt. A burial of an eighteen year-old woman with a formed skull with a gold necklace, an amber bead, a gold buckle with inlays, two polyhedral earrings, a gold finger-ring, a purse with silver fittings, a fragment of bronze mirror, a comb, tweezers and a bronze finger-ring.
127. Belt Buckle, silver, gilt, gold, garnet, white inlay (Fig. 96)
Regősy, Hungary (Béri Balogh Adám Múzeum, Szekszárd, no. A 67.3.5 (?))
L: 9.0 cm, wgt 142.22 g

Plate with four hemispherical lobes around a V-shaped centre. The lobes set with semi-circular and feather-shaped garnet plates; within the V-shape a quatrefoil in white inlay centred within a circle. The loop set with linked circles composed of white inlays around circular garnet plates. All garnet panels composed of gold cellwork set into a gilt silver base. Animal-headed tongue with three cabochon bars sunken into it. Runes or symbols on the reverse.

Found in a sand grave in 1967 on the top of hill known as "Penzesdomb". A small woman with a formed skull buried in a NW/SE orientation with gold garment plaques, two plate fibulae set with garnets and glass, a pair of gold arm-rings with thickened terminals decorated with animal heads, a glass beaker and flask at the head and a ceramic pitcher with an eagle head at her feet.

Mészáros 1970, 66; Mészáros 1972, np, pls i, ii, vii; Menghin 1987, 194, iv.6.a; Tejral 1988, 253-4, fig. 20

128. Fibula, gold, garnet or glass, onyx, amethyst (Pl. 22.1)
Found at Rebrin (Rebrény), acquired at Michalovce (Nagymihaly), Czechoslovakia (Kunsthistorisches Museum, Vienna, no. VII B307)
L: 19.5 cm, wgt. 160.2 gr

Fibula with a sub-triangular body, the top face with an outer zone of cabochon bars around an inner zone set with a small bevelled onyx surrounded by garnet plates. Three triangular plates with large notches at the corners, matched by oval auxiliary plates and separated from one another by triangular plates in a zig-zag pattern. Two crushed and empty mushroom-shaped cells at the lower corners of the cabochon bar border. The side of the body set with a running scroll pattern composed of circles and notched triangles. At the top and bottom, garnet cabochons in adjacent individual band bezels, finished at the bottom with two scrolled sheets of gold. Three suspended loop-in-loop chains of staggered length with tear-shaped garnet cabochons at the bottom, the two outer chains secured at the centre by an element of five garnet and amethyst cabochons; the third chain pendant from the central stone.

Riegl 1987, 345, pl IV; Belyaev 1928a, 69, 108, pl. xi.1, 2; Fettich 1932a, 58, 61; Noll 1974a, 48, C3, pl. 35; Kolníc 1984 100, pl. 192

129. Panel, gold, garnet, white inlay (Pl. 10.1)
Austria (Kunsthistorisches Museum, Wien, no. AS VII 877)
L 9.5 x W: 4.5 cm, wgt 30.2 gr

Rectangular panel constructed in the fourth class of framework cloisonné, one edge set with a running scroll with circular plates drilled with holes matched by notched triangular plates. The remainder with three square sections enclosing two circles and a rhomboid. The circles with semi-circular and feather patterns radiating around circular plates drilled with holes, the central square with rhomboids rotated ninety degrees within one another, ending with a drilled notched rhomboid, the outer corners set with ovals and notched triangles. The circles drilled with holes originally set with green glass cabochons. Rivets at the corners and along the edges.
130. **Buckle, gold, garnet (Pl. 10.2)**
Wolfsheim, Germany (Museum Wiesbaden, Sammlung Nassauicher Altertumer)
L: 7.8 cm

Buckle plate set with four curved rectangular plates notched on one side, surrounding a notched rhomboid in white inlay, set with a circular plate. Three colleted rivets securing the backing plate.

Found in 1870 with a segmented hollow gold torque with animal-head terminals, a plaque with a third-century AD Pahlavi inscription (Cat. no. 12), a gold arm-ring with thickened terminals, an amber sword bead, a small gold buckle, a buckle with a rectangular plate set with plates in a chevron pattern, a gold *solidus* of Valens and a gold *fibula* with a returned foot. Circumstances of find unknown.

See Cat. no. 12.

131. **Sword Bead Fitting, gold, garnet (Fig. 98)**
Pécs-Üszög, Hungary (Janus Pannonius Múzeum)
Diam: 2.3 cm

Circular mount with a notched rhomboid centred in the manner of Mosaic Style I. One notched curved plate surviving. Surrounded by beaded wire, with a hollow interior and a flange of gold sheet around the edge.

Large inventory including horse harness fittings of rectangular sheets of gold, some stamped, others set with crudely-fashioned garnet plates, crescentic-shaped sheets, strap ends (Cat. no. 89) large triangular sheets from a saddle, large sheets from a bow covering, a spear head, three triangular arrowheads, a snaffle bit and rings.

See Cat. no. 89. *Hampel 1900, 101, no. 4; Alföldi 1932, passim, 76, pls i-vi, vii.1-9, Werner 1956, 30, 36, C26, pl. 50.10c*

132. **Three Strap Ends, gold, garnet or glass (Pl. 11.1, 1a-1c)**
Szeged-Nagyszéksós, Hungary (Móra Ferenc Múzeum, Szeged, no. A.55.138.14)
L: 2.5 x W: 1.6 cm

Of broadly triangular shape, notched at the top, bilaterally divided, set with unevenly-shaped notched plates, rivets at the corners, tips and sides.

See Cat. no. 82. *Alföldi 1932, pl. xv.56-8; Fettich 1953, 118, pl. i.23-5; Menghin 1987, 178, pl. 3, iii, 7, 17*

133. **Sword Fitting, gold, garnet (Fig. 99)**
Provenance unknown, possibly Kerch, Alekseev collection (The State Hermitage Museum, Leningrad, no. 1823/42)
L: 3.8 x W: 1.6 cm
A rectangular fitting with a central notched rhomboid, the narrow tips of teardrop-shaped plates touching its outer sides. Rivets at the corners. Constructed in the second class of framework cloisonné.

See Cat. no. 119. Zasetskaya 1982, 21, 30, fig. 6.7.

134. Buckle, gold, garnet (Fig. 101)
Cluj-Somșeni, Romania (Museul de istorie al R.S. Romania, Bucharest)
L: 7.4 x W (tongue): 4.7, W (plate): 4.3 cm

Square buckle plate set with a notched rhomboid centred within a rectangle, the rectangular fields set with oval plates and notched auxiliary plates. Four rivets at the corners.

See Cat. no. 123. Horedt and Protase 1970, 88, 93-4, pl. 22.3

135. Two Buckles, Strap Ends and Belt Tabs, gold, garnet or red glass (Pl. 11.2)
Germany (Dumbarton Oaks Collection, Washington, D.C., no. 40.52)
L (buckles): 3.6 cm; L (strap ends): 3.4 cm; L (belt tabs): 2.2 x W: 1.9 cm

The buckle plates and tabs with notched rhomboids set off in a square field in Mosaic Style I, each rhomboid drilled with a circle inlaid with gold, rivets at the corners, the tongues missing from the buckles but the oval tongues, round in section survive. All cells empty on the broad tabs, but with a pattern of notched rhomboids centred with oval-shaped cells touching the notched sides, four S-shaped cells at the top with three rivets. On the reverse the top section banded, two small loops perpendicular to the top.

Deaccessioned from the Schlossmuseum in Berlin in 1935. A rectangular gold sheet surrounded with beaded wire and with beaded wire set as the ribs of a leaf, two rivets at bottom, accompanied the fittings.

Ross 1965, 119-20, no. 167, pl. lxxxiii

136. Buckle, gold, garnet (Fig. 100)
Kerch? or Taman? (Römisch-Germanisches Museum, Cologne, no. RGM D 328)
L: 4.1 cm, wgt 36.55 gr

Buckle with a square plate set with a notched, star-shaped plate drilled with a ring and dot.

Götze 1915, 11, no. 14; Damm 1988, 158, no. 82, figs 147-8

137. Belt Buckle, iron, gold, garnet, white inlay (Pl. 14.3)
Blučina, Czechoslovakia (Moravské Múzeum v Brně, Brno, 105737-105738)
L: 4.7 x W: 2.1 cm

Rectangular iron plate with a framework of gold cells. The pattern bilaterally divided, each containing a stepped rhomboid in white inlay with a central pinhead cabochon and notched rectangular auxiliary plates. The rectangular loop set with notched rectangular plates, a single rectangular plate on the tongue shield. Scored gold foils.

See Cat. nos 100, 120, 146. Tihelka 1963, 476, pl. 6.4,5; Menghin 1987, 375, viii,13.f, pl. 57
138. Sword Guard, gold, garnet (Fig. 102)
Pannonhalma, Hungary (Xantus János Múzeum, Győr, Hungary, no 82.10)
L: 11.2 x H: 1.35 x D: 2.3 cm

Long rectangular guard with four notched rhomboids on either side of a notched rhomboid centred in a rectangle in the manner of Mosaic Style I. Notched triangular auxiliary plates.

Accidental find by workmen in 1979 in a vineyard on a hillside overlooking the Szentlorinc River outside Pannonhalma. W/E orientated grave with no bone material, probably a Hunnic Totenopfer. The guard found with a two-sided longsword, several fragmentary stamped gold sheets, probably from the scabbard and hilt, a gold sheet covering for a reflex bow, a snaffle bit and cheekpieces, quatrefoil and rectangular gold sheet fittings from horse harness, gold foil fittings, possibly from a saddle, and gold foil bands, possibly from a whip.

Tomka 1986, 452-3, figs 14, 16, 18, 23.8; Tomka in Menghin 1987,156-61, iii,2.a, b

139. Sword Guard and Mouthpiece or Scabbard Mouthpiece, gold, garnet (Fig. 103)
Voskhod collective farm, near Engels (formerly Pokrovsk), Saratov region, lower Volga (Central Museum, Engels)
L (app.): 9.5

Rectangular upper section with a row of seven notched rhomboids. Damaged lower section with five notched rhomboids in the centre, bird heads at the ends set with circular eyes centred between triangular and notched triangular plates.

Accidental find in 1929 of a disturbed burial of a man with a formed skull. Grave goods included a longsword, a nephrite scabbard slide, a belt buckle with green glass inlays (Cat. no. 97), a length of loop-in-loop gold chain, a gold earring, two silver buckles with flat rectangular plates, a gold sheet in the shape of a panther head, a gold sheet stamped with two human faces, a rectangular gold sheet from horse trappings and an iron spear blade.

Werner 1956, 41-42, pl. 40.1; Arrhenius 1969, 104, 107-8, fig. 81; Zasetskaya 1982, 20, fig. 5.1; Arrhenius 1985, 61-2, fig. 55; Tomka 1986, fig. 23.7; Zasetskaya 1986, 86, fig. 1.59

140. Scabbard Slide, gold, garnet (Fig. 104a)
Mount Mithradates, Kerch (Historical Museum, Moscow)
L (app.): 15 cm

Scabbard slide, the angled side of the back set with notched triangular plates, the upper end with an animal head with cabochon eyes. Granules around the outer edges.

Found in 1890 with sword fittings set with oval cabochon garnets, and a buckle with an animal-headed tongue, a band of rectangular plates around the base of the tongue (Fig. 104b).

De Baye 1890a, 363, pl. iii; Fettich 1953, 131, pls xx. 7, xxi.4; Werner 1956, 130, fig. 2; Zasetskaya 1968, 56; Trousdale 1975, 241-2, pl. 21b

141. Scabbard Mouthpiece, gold, garnet (Pl. 12.1, bottom left)
Tourmin, Belgium (Cabinet des Médailles, Bibliothèque Nationale, Paris)
L: 7.3 x H: 1.7 cm
A cloisonné panel mounted on an elliptical mouthpiece, the front with a pattern of three notched rhomboids on either side of a central quatrefoil, the former set off in the field in the manner of Mosaic Style I, the inlay from the centre cell now missing. Notched auxiliary triangles larger than the rhomboids which they surround. The bottom and sides bordered by a row of semi-circular plates, the top by a row of small circular plates mounted on top of a row of cylindrical bezels soldered to one another. Cells at proper right side damaged. The plate bordered with rows of twisted and beaded wires, which are also used to mark off square sections on the reverse. Scored foils.

The tomb discovered at Tournai, Belgium, in 1653. Reassembled from the various persons who found them by the Archduke Leopold-Guillaume, the objects were published in 1655 by the duke's personal physician, Jean-Jacques Chiflet, with engravings which preserve an accurate impression of the objects. They passed after the archduke's death into the cabinet of Emperor Leopold in Vienna, who eventually negotiated the return of the treasure to Louis XIV, who in turn deposited them in the Cabinet des Médailles. Some objects were already missing at that time; the majority of the remaining items were stolen in a major theft from the Cabinet in 1831 and thrown into the Seine; only a few items were recovered. In addition to the missing cloisonné ornaments, the signet ring inscribed CHILDRICI REGIS, the gold arm-ring with thickened terminals and the gold cross-bow brooch were not recovered. In addition to this item, surviving today are the hilt, pommel, guard of a spatha (Cat. no. 143), two side fittings from a seax (Cat. no. 144), two side pieces from a chape, two coins of Leo I (AD 457-74), an iron francsica (throwing axe), a rock crystal ball, two gold and garnet cicadas, a solid gold buckle loop, a buckle tongue, two buttons, and a tooth.

Over one hundred gold coins and more than two hundred silver coins originally accompanied the burial. Chiflet examined ninety or ninety-one of these, which ranged from Theodosius II (AD 402-50) to Zeno (AD 474-91) and Basiliscus and Marcus (AD 476-7). The majority of these (58) were struck during the reign of Leo, like the two surviving coins and were predominantly from mints in the Eastern Roman Empire (Dumas, 1982).

Modern bibliography: Rupp 1937, 55-57, pls vi, vii; Böhner 1948, 218-19, 234-21; Hubert, Porcher and Volbach 1969, 218, no. 227; Arrhenius 1969, 80-3, 105-8, fig. 65a,b; Werner 1971; Böhner 1981, 442-5, pl. 31.2, figs 132.2, 134; Dumas 1982, fig. 2, 2a; Arrhenius 1985, 101-2, 203, fig. 106d; Ambroz 1986, 33-4, fig. 3.8, 11; Kazanski and Pépin 1988, 14, 21-25, figs 2, 4, 6

142. Paten, gold, garnet, malachite (?) (Pl. 12.2)
Gourdon, France (Cabinet des Médailles, Bibliothèque Nationale, Paris)
L: 21.1 x W: 12.7 cm

A rectangular paten, the overhanging rim inlaid along the top with a border of notched rhomboids, broken at the corners with palmette-shaped cells, now empty. The rhomboids flanked by an interior and exterior row of small circular plates set in shallow cylindrical bezels set adjacent to one another. The interior set with a cross, bilaterally divided with notched rectangular plates and small circular plates, heart-shaped malachite inlays in the corners. Fine beaded wire surrounding the interior inlays and the bottom edge of the rim. The base composed of two rows of openwork bean-shapes or double bow spirals set back to back.

Found in 1845 at Gourdon near Chalon sur Saône with 104 coins and a small gold cup with bird-headed handles, the body with alternating heart and palmette-shaped bezels (now empty) in a vine scroll of beaded wire, wires for the suspension of pearls above and below these shapes. The original coins from the hoard were distributed approximately as follows: one solidus of Leo (AD 457-74); one solidus of Zeno (AD 474-91); 14 solidi and 63 tremisses of Anastasius (AD 491-518); 20 solidi and 5 tremisses of Justin I (AD 518-527). There are forty-four coins now in the Bibliothèque Nationale which may formed part of the original hoard, together with a group in Dijon,
the latest of which Lafaurie suggests is a *tremissis* of Justinian (AD 527-65).

Labarte 1872, i, 272-6; De Linas 1877, iii, pl. 1; Lafaurie 1958; Elberam 1963, 23-4, 72, fig. 17; Arrhenius 1969, 106-8, figs 83, 85a, b; Hubert, Porcher and Volbach 1969, 218, no. 234; Arrhenius 1985, 65, 70, figs 65-8

143. Spatha Pommel, Upper and Lower Hilt Guards, gold, garnet (Pl. 12.1, left)
Tournai, Belgium (Cabinet des Médailles, Bibliothèque Nationale, Paris)
L (pommel): 3.7 cm; L (upper guard): 6.2 x H: 1.2 cm; L (of lower guard): 8.4 x H: 1.25 cm

The fragmentary pommel with an animal head with eyes and mouth set with garnets, the nose with omega-shaped plates and the back with wing-shaped plates. The upper and lower guards set with wing-shapes (rectangles with two straight side, one notched side, and one curved side, two empty cells on proper right side of top guard. Borders of twisted wire around the edges of both guards.

See Cat. no. 141. Böhner 1981, pl. 30.1; Dumas 1982, pl. 1; Arrhenius 1985, 102-3, 201, fig. 106a,b, c

Carpet Style

144. Seax Scabbard Fittings, gold, garnet (Pls 12.1, Right; 13.2)
Tournai, Belgium (Cabinet des Médailles, Bibliothèque Nationale, Paris)
Chape: L: 6.6 x H: 1.8 cm; Mouthpiece: L: 12 x W: 2.6 cm

An L-shaped scabbard mount and a matching chape base. Both inlaid with a pattern of S-shaped plates bordering notched rectangles, the edges set with pin-head garnet cabochons. The design of the first fitting interrupted by a notched circular cell, now empty. The base of the chape set with a large oval garnet plate with an omega-shaped tip, within a cell of similar shapes in white onyx. The interior edges of both fittings set with rows of small rectangular plates. Scored foils.

See Cat. no. 141. Böhner 1981, 449-50, pl. 31.1, fig. 33; Dumas 1982, fig. 3; Arrhenius 1985, 106-10, fig. 114, 116; Ambroz 1986, 33-4, fig. 3

145. Sword or Dagger Fitting, gold, garnet, turquoise or malachite (Colour Pl. X.1)
Turkey (Private Collection, London)
L: 3.6 x H: 1.5 cm

Fitting set with two large notched oval garnet plates flanking a palmette-shaped inlay in decayed turquoise or malachite. A border of finely beaded wire around the bottom edge, three colleted rivets at the sides and top. Plain foils.

*Unpublished*

146. Pair of Shoe Buckles, Strap Distributors and Strap Ends, gold, garnet, white inlay (Pl. 14.2)
Blučina, Czechoslovakia (Moravské Müzeum v Brně, Brno, nos 105741-2; 105749-52; 105743-4)
L (buckles): 4.3 cm; L (fittings): 2.1 cm; L (strap ends): 4.0 cm

The kidney-shaped buckle plates set with mushroom-shaped garnet plates centred between notched semi-circular plates. Thick loops composed of white material set into gold trays with beaded wire
edges. The four triangular strap distributors with quatrefoils in white inlay centred within circles and surrounded by notched circular sections and broadly notched triangular plates in the corners. Two broad, leaf-shaped strap ends set with bilateral rows of S-shaped plates. Both distributors and strap ends with beaded wire borders. Scored foils.

See Cat. nos 100, 120, 137. Tihelka 1963, 481-2, fig. 6.1-3; Menghin 1987, 374-5, viii.13.h

147. Spatha Mouthpiece, gold, garnet (Pls 6.6; 15.1, 1a)
Pouan (Aube), France (Musée des Beaux Arts et d'Archéologie, Troyes)
L: 8.0 x W: 2.4 cm

The front panel set with eight rectangular garnet plates, separated by nine carved garnet bars, each rectangular plate matched at the bottom with semi-circular plates. Heavy beaded wire borders around the edges of the backing plates.

See Cat. nos 103-4, 106. Peigné-Delacourt 1860, 2-6, pl. I.2, 5; Garscha 1936, 197, fig. 2; Behmer 1939, 59, pl. vi.2; Böhner 1948, 222, pl. 39.2; Salin and France-Lanord, 1956, 65-7, figs 4-6; Mainz 1980, 195-6, no. 305; Kazanski 1982, 25-9, pl. D.3; Antibes 1987, 126-34

148. Pommel, gold, garnet, white inlay (Fig. 105)
Oros, Hungary (Magyar Nemzeti Múzeum, Budapest, no. N. 647, 52.66.2)
L: 5.5 cm, W: 4.0 cm

Heart-shaped ornament, the inner zone with two bilateral rows of omega-shaped plates; the outer with rectangular plates interrupted by circular white inlays surmounted by flat circular garnets. A border of finely beaded wire on the bottom edge. Thin backing plate, revealing construction in the fourth class of framework cloisonné.

Found in 1950 at Oros near Nyiregyháza in a mound damaged during road building. Sold to the museum in 1952, together with a hair-ring, a cabochon garnet in an individual setting, and a silver buckle with only the oval backing plate surviving, its loop polygonal in section, the tongue shield set with a rectangular garnet plate. Kovrig gave the find spot incorrectly as Nemétker.

Kovrig 1959, 211-12, pl. iii.8; Arrhenius 1985, 127, 129, 201, fig. 146; Kazanski 1982, 27, pl. D.1; Menghin 1987, 220

Apahida I

The initial group of objects recovered in 1889 in the village of Apahida outside Cluj, Romania, included a gold cross-bow fibula, six cloisonné horse-headed ornaments (Cat. no. 98), two buckles (Cat. nos 149 and 150), a cloisonné fitting from the rim of a cup (Cat. no. 151), a ring with a Greek monogram, a ring with four crosses on the bezel and a signet ring inscribed 'Omharus'. Two silver vessels with classicising repoussé decoration were included in the burial, together with a flattened gold band with pins which was probably a repair fitting for a glass vessel. Comparative Plate 11 illustrates the insignia from the grave. With the exception of one of the horse-headed pendants, in the Magyar Nemzeti Múzeum, Budapest, all objects are held in the Museul de istorie al R.S. Romania, Bucharest.

Findly 1889a; Riegl 1987, 323-5, pl. a.4, 7, figs 96, 98; Hampel 1971, ii, 39-43; iii, pls 32-6; Fettich 1953, 145-7, pls xxi.1-3, xxii-xv; Kiss 1982, 163-75; Kiss 1987, 193-217

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149. Buckle, gold, garnet (Pl. 16.4, 4a)
W: 3.0 cm
The top of the bean-shaped plate set with a quatrefoil (inlay missing) flanked by notched triangular plates; the unclosed border of pinhead cabochons sunk into the solid gold rim, three broad-headed rivets at either side and the back. Each cabochon matches the rectangular plates and thin carved cabochon bars alternating around the outer body of the plate. The tongue shield also bean-shaped with a bean-shaped garnet plate surrounded by pin-head cabochons, the sides set with omega plates. The tongue inlaid along the upper portion only with two rows of S-shaped plates in thick cellwork. Solid gold loop.

150. Shoe Buckle(?), gold, garnet (Pl. 16.3)
L: 2.8 cm
Bean-shaped plate with a central hexagonal cell flanked by two notched circular sections. Solid tongue and loop.

151. Cup Fitting, gold, garnet, green glass (Pl. 16.2)
L: 2.8 cm
Panel with three vertical registers, the top with two notched mushroom-shaped plates flanking a smaller mushroom cell above and a semi-circular cell below (both empty); the centre zone with three notched triangles; the bottom with a single rhomboidal plate, truncated and notched on the top side. Rivets at the top corners and bottom tip, a rim of beaded wire around the edge of the backing plate. The panel riveted at the top to a bent gold sheet which would have been clipped to the rim of a vessel. The curvature of the vessel mirrored by the upturned bottom of the cloisonné panel.

Apahida II

The numerous objects from the Apahida II have been catalogued by Horedt and Protase 1972, therefore only brief descriptions appear in the shortlist below. All objects are held in the Museul de istorie al R.S. Romania, Bucharest.

The Apahida II grave, located some 500 metres south of the Apahida I find, was disturbed in October 1968 when a cement piling was sunk into the ground; the objects found inside were secreted by the finders and a portion sold. Several months later, in May 1969 the authorities discovered what had happened and recovered as many objects as possible. A rescue operation was then conducted, which recovered objects associated with a body from the pelvis down, as well as traces of a wooden coffin, and the fittings of a wooden chest that apparently contained the garnet cloisonné horse harness. Horedt and Protase included a very schematic grave plan in their report, showing skeletal fragments as well as the relative positions of the spatha and some of the cloisonné fittings. A glass beaker (repaired with gold), three snaffle bits, the tip of a spatha, the socket for a spear, and hollow gold casings (for horse harness reins?) were among the surviving grave goods together with numerous items of garnet-inlaid regalia and horse harness (Cat. nos 152-66).

152. Purse Lid, gold, garnet, green glass (Pl. 17.1)
L: 18.0 x H: 5.9 x D: 0.7 cm
Three cloisonné panels in the fourth class of framework cloisonné, designed to imitate a leather or fabric purse. The two lower panels set with hexagonal plates with a border of omega-cells and pin-
head cabochons. The top section outlined with pin-head cabochons with a top row of omega-cells, the two side sections with S-shaped plates above and below omega plates on either side of a section composed of quatrefoils in white inlay and notched plates, imitating a clasp. A single row of omega plates surrounding the exterior edge of the piece.

153. Buckle, gold, garnet (Pl. 18.1, la)
Buckle Plate: 4.3 x 3.0 x 1.4 cm, Ring 4.8 x 3.3 x 1.2 cm; Tongue: 4.6 X 1.2 cm

The bean-shaped plate set with a quatrefoil (inlay missing) flanked by notched triangular plates and surrounded by a border of pinhead cabochons sunk into the solid gold rim, each cabochon corresponding to carved cabochon bars alternating with rectangular plates around the outer body of the plate. The circular tongue shield with a notched circular plate drilled with a hole within a border of pin-head cabochons, S-shaped plates around the sides. The tongue set with two registers, S-shaped plates above omega-shaped plates, with thin cabochon bars running down the middle. Heavy, solid gold loop.

154. Purse Buckles, gold, garnet glass (Pl. 18.2)
Diam. (of tongue shields): 2.7 cm

Two buckles with tongues set with omega plates, sides with S-shaped plates and tops with notched circles surrounded by pin-head cabochons. The one surviving plate with a trefoil-shaped cell (empty), notched plates and pin-head cabochons.

155. Purse Fittings?, gold, garnet (Pl. 18.3)
L: 4.0-4.2 cm

Two fittings in the shape of horse heads, facing in opposite directions, a few broadly notched rectangular and circular plates surviving, two rivets at the back ends. Possibly associated with a small buckles as purse fittings.

156. Shoe Buckles and Strap Ends, gold, garnet (Pl. 18.4, 4a-c)
L (strap ends): 3.3 x W: 1.1 cm

Buckle plates set with a honeycomb pattern of hexagonal cells, surrounded by pinhead cabochons, the tongue shields encircled with rectangular plates and the tongues with curved plates with omega-shaped tips. Strap ends set with a leaf-shaped garnet ground with a median ridge, composed of more than one section of stone, surrounded by pin-head cabochons.

157. Seax Pommel, gold, garnet, green glass (Pl. 19.1)
W: 4.6 x H: 2.7 cm

Mount with two vulture heads at either end, the eye cells empty, the ceres rendered in green glass, the beaks composed of more than one plate. The square inner zone composed of three registers of notched rectangular plates of three sizes, the top border of pin-head cabochons corresponding to carved bars and plates on the upper side of the fitting. On the outer sides of the bird heads, the lower portion set with a row of omega plates.
158. Scabbard Slide, gold, garnet, green glass (Pl. 19.2)
L: 6.7 x W: 2.3 x D: 0.7 cm

Fitting with two palmette-shaped ends and a central arched bow, the bow set with omega plates, the ends with heart-shaped and notched mushroom cells around empty trefoil-shaped cells. Finely beaded wire around the bottom edge.

159. Fittings in the Shape of Vultures, gold, garnet, green glass (Pl. 19.3)
H: 11.5 x W: 5.2 x D: 1.5 cm

Two fittings with exaggerated beaks rendered with more than one free-form plate, the ceres at the top in green glass, white eye inlays, the wings composed of notched rectangular cells, the oval bossed bodies of notched rectangular plates around feather plates. The feet at the bottom rendered with thick thumbnail-shaped plates carved with parallel grooves. The "tails" composed of notched triangles above axe-shaped cells with decayed inlays.

160. Three Small Rosettes, gold, garnet (Pl. 20.1)
Diam: 2.2 cm

All cells empty, with an outer rim of bird-head-shaped cells and central bosses with notched trapezoidal plates. Rivets around the edges between the bird heads. Two with straight cell walls soldered to the top and bottom of the cylindrical centre stem; the third with crimped cell walls corresponding to notched plates.

161. Three Medium Rosettes, gold, garnet (Pl. 20.2)
Diam: 4.1-4.3 cm

As above.

162. Four Large Rosettes, gold, garnet (Pl. 20.3)
Diam: 6.1-6.3 cm

The outer rims with bird-headed plates around a zone of S-shaped plates, the central bosses set with vertical rows of omega-shaped plates.

163. Three Violin-Shaped Fittings, gold, garnet, green glass, white inlay (Pl. 20.4)
L: 4.8 cm

Three fittings, the notched end divided into quadrants with notched plates and a semi-circular white inlay inlaid with a gold ring, the central section with notched triangles and the other end with notched mushroom cells on either side of a semi-circular white inlay and oval green inlay.

164. Two Small Fittings, gold, garnet, white inlay (Pl. 20.5)

Two mushroom-shaped cells with a semi-circular cell in white between them, a feather-shaped plate on top and a rectangular plate at the bottom.
165. Twenty-Seven Vulture-Headed Fittings, gold, garnet, green glass (Pl. 20.7)
H: 3.4 x W: 3.8 x D: 0.7 cm

Fittings with two vulture heads at the outer sides, most of the eye inlays missing, the ceres in green glass, the beaks pieced from more than one stone, between them three notched elongated thumbnail-shaped cells above notched rectangles and triangles flanking a semi-circular cell.

166. Four Strap Ends, gold, garnet (Pl. 20.6)
H: 2.6 x W: 3.2 x D: 0.4 cm

Strap ends with cylindrical bottoms divided into four quadrants set with curved rectangular plates, the tops with a row of long and short notched rectangular plates.

167. Buckle, gold, garnet, glass (Pl. 18.5)
Kerch, Crimea (State Hermitage Museum, Leningrad)
L: 5.0 cm; W: 3.3 cm

Oval buckle plate with a honeycomb cellwork pattern, the inlays sunken, damaged and replaced, a border of sockets to accommodate pin-head cabochons, breaking at the junction of the tongue and loop. The tongue with a rectangular plate on the shield and squared-off omega-shaped plates down the tongue. The loop set with notched triangular plates and a border of pinhead cabochons sunk into the gold rim, some preserved. Loop and tongue damaged.

Unpublished

168. Buckle, gold, garnet, white inlay (Pl. 18.6)
Esslingen-Rüdern, Württemberg, Germany (Württembergisches Landesmuseum, Stuttgart)
W: 3.9 cm

Oval buckle plate with a bead-shaped cloisonné section set with a notched quatrefoil in white inlay, surmounted by a pin-head garnet cabochon, and flanked by notched triangular plates, the loop with notched triangular and rectangular plates, a rectangular plate on the tongue shield. The loop and plate surrounded with pinhead cabochons, each mounted at the top of a tubular bezel, the bezels soldered adjacent to one another. Scored foils.

Found in 1852 at the peak of Ailenberg, southeast of Obertürkheim, together with a spatha with a gold-handled hilt, a seax, arrowheads and bone stiffeners from a reflex bow, and a small bronze buckle.

Christlein 1972, 262, pl. 57.1; Christlein 1978, 163-4, pls 20, 45

169. Pair of Shoe Buckles, Distributors and Strap Ends, gold, garnet, glass (Colour Pl. X.2)
Szeged-Nagyszekso, Hungary (Móra Ferenc Múzeum, Szeged, nos A.55.138.2; A.55.138.6; A.55.138.

L (buckle) 4.2 x W: 2.3; Diam (distributors): 1.7 cm ; L (strap end): 3.0 x W: 1.1 cm

Buckles with plates composed of two notched circles flanking a keyhole-shape, with a single large circular plate at one end, the distributors with thin cabochon bars set on two sides and at the top, curved sections in green glass at the bottoms and central convex notched triangles in the centres. The strap ends with convex chevron-shaped plates ground with a median ridge, silver foils.

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See Cat. nos 82-3. The mate to the buckle was in the Flessig collection, but is now lost. Alfeldi 1932, pl. xv. 40, 54, xvi. 27; Fettich 1953, pl. 1.2, 1.3, 1.9; Menghin 1987, iii, 28, 31, 41, pl. 3

170. Bird Fibula, gold, garnet, green glass (Colour Pl. X.3)
Beregovo, Soviet Ukraine (formerly Beregszász) (Magyar Nemzeti Múzeum, Budapest, no. 437)
L: 3.3 cm

Fibula in the form of a bird facing right, its stylised claw stretched before it. The hooked beak set with two plates and a green glass cere adjacent to the oval eye and curved circular head lates. Below a notched circular section, are two oval plates, the right hand one with an omega-shaped protrusion at the bottom, the notched circular section of the tail plate missing, the foot composed a single plate in a modified crescentic shape. A border of beaded wire along the edge of the backing plate.

Found with a pair of digitated bow fibulae, two polyhedral ear-rings, a gold arm-ring with thickened terminals, a gold finger-ring with an engraved bezel (now lost), four gold beads, an amber and bead, a ring in Mosaic Style 1 with empty cells, and a ceramic pitcher.

Alfeldi 1932, 49, fig. 14; Csallány 1961, 220, pl. cciv.13; Arrhenius 1985

171. Fitting, gold, garnet (Pl. 9.3, 3a, 3b)
Kerch, Crimea (Römisch-Germanisches Museum, Cologne, D340a, 340b)
L (340a): 3.8 cm; L (340b): 3.1 cm, W: 1.1 cm

Fragmentary ornament, broken into two pieces, the top sides of both set with a framework of two rows of S-shaped plates; the back sheets repoussé and engraved with an inhabited vine scroll including a ram, bird and lion against a stippled ground.

Ebert 1901, 76, fig. 8a-b; De Baye 1911, fig. 2; Böhner 1948, 249; Damm 1988, 182-4, no. 105, figs 194-6

APPENDIX II

Medallion Style, Persia, Central Asia and India

172. Necklace, gold, garnet (Pl. 21.1)
Iran (The Louvre, Paris, no., A21421)
D (medallion): 3.4 cm; L: 6.0 cm

The central medallion with two wings, its circular centre set with a zone of rectangular plates around a Sasanian period gold coin or coin imitation; the wings each set with three thin cabochon bars. The necklace elements composed of thin gold sheets moulded over bitumen or a like substance which secures the cabochon garnets. Eight oval elements alternating with eight rectangular settings and separated from them by pairs of gold spacer beads. The oval and rectangular elements set with single and double cabochons, respectively. Cylindrical and round gold beads form the remainder of the necklace.

Amiet 1967, 278, no. 12
173. Two Medallions, gold, garnets, pearls (Pl. 21.2, 3)
Vicinity of Taxila, Pakistan (Victoria and Albert Museum, London, no. 9-1948; The Cleveland Museum of Art, Cleveland Museum of Art, no. 53-14)
Diam (V & A): 4.9 cm; Diam (Cleveland): 5.0 cm

A pair of circular medallions, each with an inner zone of sixteen notched rectangular garnet plates around a repoussé figure of a goddess carrying a cornucopia and an open lotus blossom. The Victoria and Albert Museum medallion preserves ten pearls within the tray of the outermost zone, depressions corresponding to these remain on the Cleveland medallion. The cellwork between each notched plate worked into the shape of a fleur-de-lis. The V and A medallion with a square loop at the bottom; the Cleveland medallion with a top panel composed of two acanthus and one omega-shaped cells, all empty. Open lotus blossoms engraved on the reverse gold sheets of both pieces.

Aston 1947-8, 47, 193 (169); Rice 1965, 141, no. 126; Hallade 1968a, 97, colour pl. xi; Czuma 1985, no. 75

174. Breast Medallion, gold, garnet (Fig. 106)
Shamshi, Soviet Kirghizia (Kirgizskiy gosudarstvennyy istoricheskiy muzei, Frunzhe, Kirghizia, nos 3-4, 1-19)
H: 3.7 x W: 3.2 cm

A medallion suspended between six chains each composed of articulating links of gold rimmed with granulation and set with garnet cabochons carved in the form of palmettes. The medallion with a border of small rectangular garnet and glass (?) plates around a figure in relief, its bust formed by a bean-shaped cabochon carved with lines of drapery, its head a separate oval stone carved with a face.

From a rich burial in a cemetery excavated in 1958. Among the other grave goods were a gold cap with thumbnail-shaped and rectangular garnet inlays, a gold mask with garnet eyes, a pair of cloisonné ear-rings (all cells empty), a gold bracelet, gold rings set with cabochon garnets and heavy granulation, a gold cup a silver spoon, a bronze kettle, granulated fittings and strap ends set with cornelians, horse harness fittings, and a fragment of a saddle cover.

Kanimetov et al. 1983, 47, no. 144

APPENDIX V
Luxury Cloisonné in Carpet and Architectural Styles

175. Fibula, gold, garnet (Colour Pl. XI.1; Pl. 22.3)
Pietroasa, Romania (Museul de istorie al R.S. Romania, Bucharest, no. AV 490)
H: 27 cm; W: 15 cm

A fibula in the shape of a bird seen from above. Very badly damaged with the head presently mounted 180 degrees in reverse of its original position. The hollow neck constructed à jour with a sheet of gold chiselled to accommodate circular and heart-shaped plates, the latter shapes set tip to back in vertical rows. The eye and beak carefully detailed to resemble an eagle or falcon, with the feathered area around the head covered with circular depressions, each with an open centre to light the stones. The back of the bird originally set with large cabochons and plates in individual bands with the edges of the wings, centre of the back, wing tips and tail rendered in cloisonné. A few garnet plates in the shapes of feathers, notched hearts and rectangles survive. At the base of the tail four chains with suspended rock crystal pendants with gold caps. A simple spring pin and clasp
The treasure was found in 1837 by peasants working in a limestone quarry in a valley in the Eastern Carpathians. A year later the objects were acquired from them by a building contractor who began to break up the pieces for the gold, discarding the gems. When discovered the contractor split and reburied part of the hoard before it was acquired by the museum. After further theft and damage the objects that survive in addition to the inlaid pieces are a large gold plate, a gold ewer, a gold patēra with repoussé figures and a central female figure in the round, two gold torcs, one whole, the other fragmentary with a runic inscription.


176. Fibula, gold, garnet, glass, pearls (Pl. 22.2, 2a)
Pietroasa, Romania (Museul de istorie al R.S. Romania, Bucharest, No. AV 493)
H: 12.5 cm

Fibula with a vertical "neck" and hollow domed body, the circular body formed of two thick sheets of gold, the top one chiselled to accommodate garnet plates of different shapes. An outer zone of tear-drop-shaped plates surround a middle zone of four comma-shaped and two circular plates around a large central garnet cabochon. All plates drilled with ring and dots. Above and below the body, separated from it by colleted pins, are cylindrical casings, each divided into quadrants originally set with rock crystal cabochon bars. Flanking these are round cabochon garnets, the bottom pair subsumed in comma-shaped gold sheets, their coiled tips scrolling outwards. Above the top casing the neck set with rectangular and square glass inlays. At the bottom two suspended chains with pearls at the tip. On the reverse an arched polygonal stem holds a cabochon garnet in its hexagonal tip, its end chiselled open to light the stone; the pin secured in a second clasp soldered to this stem; the pin hinged below in a variant of a crossbow mechanism with a cylindrical bar and polygonal knobs.

See Cat. no. 175. Belyaev 1928, 78, fig. 17; Alfoldi 1932, 40, fig. 8

177. Pair of Fibulae, gold, garnet (Colour Pl. XI.2, Pl. 23)
Pietroasa, Romania (Museul de istorie al R.S. Romania, Bucharest, no. AV 491)
H: 25.0 cm

Fibulae with hollow domed bodies, long vertical "necks" and backing stems with vulture heads at the ends. The oval bodies composed of two sheets of gold, the top sheet chiselled to accommodate garnet plates. An outer zone of tear-drop shaped plates around a secondary zone set with a pattern of hearts and double oval set as hearts alternating with one of two patterns - comma-shapes above a five sided star or circular shapes set above notched diamonds to resemble a hedera. An inner zone of bean-shapes around a central cabochon. The rim of the body also chiselled for circular plates. The few surviving plates drilled with rings and dots. At the base large cabochons and a crushed pattern of cells on a gold sheet forming scroll-like shapes to the sides; chains suspended below with pendants in the form of acorns with gold caps and polygonal nuts set with drilled garnet plates. At the top of the body a series of band settings to accommodate cabochons, three at the bottom, surrounded by one circular and two large oval settings, with cylindrical tubes and colleted pins to the sides of these; one cabochon garnet surviving. At the rear a stem, rectangular in section, their outer sides fabricated with openwork settings to accommodate cabochon bars; the stems terminating in realistically modelled vulture heads, originally set with stones. The stems attached by short knurled lugs, the pins secured in polygonal clasps soldered at the base of these, opening by means of hinges at the bottoms, their flanking knobs resembling those of crossbow fibulae.
178. Dodecahedral Cup with Panther Handles, gold, garnet, glass, spinel (Colour Pl. XII.1)
Pietroasa, Romania (Museul de istorie al R. S. Romania, Bucharest, no. AV 488)
H: 11.0 cm

Openwork cup with handles in the form of panthers, their bodies originally set with pinhead cabochons of garnet and turquoise. The cup body composed of twelve a jour panels matched to twelve similar panels around the base. Each panel with an eight petalled rosette centred between notched rectangles, the vertical divisions between each panel set with cabochon bars, rectangular plates sunk into the gold bands above and below each panel. Cabochon bars around the top rim and along the rim of the raised foot. The openwork base of the foot set with a similar rosette. The tops of the flat horizontal handles originally set with cloisonné; a pattern of notched hearts, rectangles and keyholes shapes restored on one side. Circular band settings around the edges, with a crescentic carved cabochon bar surviving in one. Both panthers heavily restored, one handle restored.

See Cat. no. 175.

179. Octagonal Cup with Panther Handles, gold, garnet, glass, spinel (Colour Pl. XII.2)
Pietroasa, Romania (Museul de istorie al R. S. Romania, Bucharest, no. AV 487)
H: 10.5 cm

Cup constructed as above but with eight a jour panels each set with a rosette composed of twelve petals around an oval centre, the pattern filling the frame. Smaller versions of these rosettes with eight petals in the panels around the vase. Flat rectangular plates in the gold bands above and below the panels, cabochon bars separating the flower panels, along the top rim and foot rim. Handle tops with group of band cells, possibly circular, but heavily restored; circular band settings along the edges as on the other cup, some set with cloisonné cells.

See Cat. no. 175.

180. Shield Rim, gold, garnet (Pl. 24)
Sárviz River, Hungary (Magyar Nemzeti Múzeum, Budapest, no. N486 97/1878)
Diam: 51 cm

Fragmentary shield rim, the cloisonné cellwork revealing inner and outer borders of rectangular plates flanking a zone with thick large oval plates, slightly cabochon, running down the centre, with broadly notched rectangular cells below them, above the oval settings, rhomboidal or notched rhomboidal cells, with another small row of triangular cells above these. Probably a rim of cabochon bars. Thin backing sheet.

Found by gypsies on the banks of the Sárviz River (at Sárrét or Döbrőkőz?), who took the fragments to a goldsmith in Pécs, from whom the National Museum acquired them. Another goldsmith in Budapest restored the fragments to their present shape, forming half of an elliptical rim, presumably of a shield.

Hampel 1971, ii, 46; iii, pl. 39; Alfdldi 1932, 77, pl. ix
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>AA</td>
<td>Archäologische Anzeiger</td>
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<tr>
<td>AAASH</td>
<td>Acta Archaeologica Academiae Scientiarum Hungaricae</td>
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<td>AARP</td>
<td>Art and Archaeology Research Papers</td>
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<td>Acta Arch.</td>
<td>Acta Archaeologica, Copenhagen</td>
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<td>AI</td>
<td>Ancient India</td>
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<td>Arch. Korr.</td>
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<td>Bericht der Römisch-Germanischen Kommission</td>
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<td>HRGA</td>
<td>Hoops Reallexikon der Germanischen Altertumskunde</td>
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<td>IAK</td>
<td>Izvestiya Imperatorskoy Arkheologicheskoy Komissii</td>
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<td>IPEK</td>
<td>Jahrbuch für Prähistorische u. Ethnographische Kunst</td>
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<td>Jahrb. RGZM</td>
<td>Jahrbuch des Römisch-Germanische Zentralmuseum</td>
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<td>JPGMJ</td>
<td>John Paul Getty Museum Journal</td>
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<td>Saal. Jahrb.</td>
<td>Saalburg Jahrbuch</td>
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<td>ZOO</td>
<td>Zapiski Imperatorskogo Odessskogo Obshchestva Istorii i Drevnostey</td>
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Where a general editor is not specified, *exhibition catalogues and museum guides* are listed under the name of the *city* where the museum is located.
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LATE ANTIQUE, MIGRATION PERIOD AND EARLY BYZANTINE

GARNET CLOISONNÉ ORNAMENTS

ORIGINS, STYLES AND WORKSHOP PRODUCTION

Vol. II
Figures, Plates, Maps

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Fig. 85. *Sword Guard and Hilt Fitting*, Vol’naya Voda, Russia (Cat. no. 117).

Fig. 86. *Fragmentary Panel from a Sword Guard*, Burial no. 479, Dyurso River, Novorossiysk, Soviet Abkhazia (Cat. no. 118).
Fig. 87. *Sword Guard*, Kerch (?), Crimea (Cat. no. 119).

Fig. 88. *Sword Guard*, Kislovodsk, Soviet Abkhazia (after Runich 1976).

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Fig. 90. *Front and reverse of necklace medallion*, Piazza della Consolazione treasure, Rome (after Zahn 1929)

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Fig. 92. *Reverse and side of bracelet*, Ravenna, Italy (after Rupp 1937).

Fig. 93. *Reverse of cross pendant*, Istanbul, Turkey (after Ross 1965).

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Fig. 97. Ear-ring, Armazis-khevi, Soviet Georgia (after Apakidze et al. 1958).

Fig. 98. Sword Bead Fitting, Pécs-Üszög, Hungary (Cat. no. 131).

Fig. 99. Fitting, Kerch (?), Crimea (Cat. no. 133).

Fig. 100. Buckle, southern Russia (Cat. no. 136).

Fig. 101. Buckle, Cluj-Someșeni, Romania (Cat. no. 134).

Fig. 102. Sword Guard, Pannonhalma, Hungary (Cat. no. 138).
Fig. 103. *Sword Mouthpiece and Guard*, Voskhod, Engels, Russia (Cat. no. 139).

Fig. 104a-b. *Scabbard Slide and buckle*, Mt. Mithradates, Kerch, Crimea (Cat. no. 140).

Fig. 105. *Pommel*, Oros, Hungary (Cat. no. 148).

Fig. 106. *Breast Chain and Medallion*, Shamshi, Soviet Kirghizia (Cat. no. 173).
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1. Finger-ring, provenance unknown (Cat. no. 3); 2. Finger-ring, Spain (Cat. no. 8); 3. Pendant, 24.6.1904 Tomb, Kerch (Cat. no. 26); 4. Circular Fitting, 24.6.1904 Tomb, Kerch (Cat. no. 38). No. 1, 5:3; no. 2, 3:1; no. 3, 5:4; no. 4, 3:2.
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1. Longsword Fittings, 24.6.1904 Tomb, Kerch, Crimea (Cat. nos. 42-46, 57, 59); 1a. Hilt Fitting (Cat. no. 59); 1b. Hilt Fitting (Cat. no. 43); 1c. Scabbard Panel (Cat. no. 42). No. 1, no scale; no. 1a, 2:3; no. 1b, 2:1; no. 1c, 1:1.
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1. Collar, Pietroasa, Romania (Cat. no. 48); 2. Buckle, 24.6.1904 Tombs Kerch (Cat. no. 49); 3. Buckle, 24.6.1904 Tomb, Kerch (Cat. no. 50). No. 1, not to scale; no. 2, 5:3, no. 3, 2:1.
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1. Double-Headed Goat Fittings, 24.6.1904 Tomb, Kerch (Cat. no. 54); 2. Pommel or Sword Bead Fitting, Tomb 145, Kerch (Cat. no. 56); 3. Longsword Pommel, 24.6.1904 Tomb, Kerch (Cat. no. 57). No. 1, 1:1; nos 2,3, app. 2:1.
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1, 2. Pair of Disc Fibulae, Second Hoard, Simleul-silvaniei (Szilágy-somlyó), Romania (Cat. no. 67).
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1. 1a. Views of the decorated bezel settings of Onyx Fibula, Second Hoard, Simleul-silvaniei (Szilágy-somlyó), Romania (Cat. no. 68). Not to scale.
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1. *Pair of Fibulae*, (Cat. no. 69); 2. *Pair of Fibulae* (Cat. no. 72). Second Hoard, Simleul-silvaniei (Szilágy-somlyó), Romania. No. 1, 3:4; no. 2, 1:2.
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1. Bracelets, Buckle and Rings, Dunapataj-Böd puszta, Hungary (Cat. nos. 96, 105); 2. Sword Guard, Aitlussheim, Germany (Cat. no. 115). No. 2, 1:1.
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1, 1a. Medallion, front and reverse, Cluj-Someșeni, Romania (Cat. no. 123). 4:5.
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1. Fitting, Turkey (Cat. no. 145); 2a-c. Shoe Buckle, Distributor and Strap End, Szeged-Nagyszéksós, Hungary (Cat. no. 169); 3. Bird Fibula, Beregovo, Soviet Ukraine (Cat. no. 170). No. 1, 2:1; no. 2a-c, 1:1, no. 3. app. 3:1.
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1. Eagle/Falcon Fibula, wing and tail section (Cat. no. 175); 2. Vulture Fibula, detail (Cat. no. 177). Pietroasa, Romania. No. 1, 1:1. no. 2, enlarged
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1. Dodecahedral Cup, detail of handle top (Cat. no. 178); 2. Octagonal Cup, detail (Cat. no. 179). Pietroasa, Romania. Both approximately 1:1.
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1. Finger-ring, Cortona, Italy (Cat. no. 1); 2. Finger-ring, Chiusi, Italy (Cat. no. 2); 3. Fibula, Dura-Europos, Iraq (Cat. no. 7). No. 1, app. 5:1; no. 2, 2:1; no. 3, 1:1.
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1. Ear-rings, House of Menander, Pompeii, Italy (Cat. no. 9); 2. Amulet Case, Ahin Posh Tope, Jalalabad, Afghanistan (Cat. no. 10); 3. Plaque, Wolfsheim, Germany (Cat. no. 12). All 1:1.
Plate 3
1. Strap End (Cat. no. 33); 2, 2a. Strap End and detail (Cat. no. 34); 3. Bracelet (Cat. no. 35); 4. Scabbard Fitting (Cat. no. 36); 5. Four Polyhedral Beads (Cat. no. 39). All from the 24.6.1904 Tomb, Kerch, Crimea., All 1:1.
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1. Three Buckles (Cat. no. 40); 2. Fragmentary Dagger with Cloisonné Hilt (Cat. no. 41); 3. Top: Sword Hilt Fitting (Cat. no. 44), Bottom: Scabbard Mouthpiece (Cat. no. 45); 4, 4a. Scabbard Chape (Cat. no. 47). All from the 24.6.1904 Tomb, Kerch, Crimea. Nos 1, 2, 4, 1:1; nos 3, 4a, 2:1.
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1. Strap End (Cat. no. 51); 2, 2a. Scabbard Fitting, front and side (Cat. no. 60); 3. Reconstructed Scabbard with Three Fittings (Cat. no. 61); 4. Rectangular Panel (Cat. no. 52); 5, 5a. Two Panels, one enlarged to show scored foils (Cat. no. 53); 6, 6a. Three Panels reconstructed as purse fittings (left) and scabbard fittings (right) (Cat. no. 55). Nos 1, 2, 24.6.1904 Tomb, Kerch; nos 3-5, Kerch (?), Römisch-Germanisches Museum, Köln; no. 6, Crimea, British Museum, London. Nos 1, 2, 4, 5, 6, 1:1; nos 3, 6, not to scale; no. 5a, 4:1.
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1. Pendant, Hesselager, Denmark (Cat. no. 78); 2. Strap End, Crimea (Cat. no. 84); 3. Fitting, Mestechko Kurgan, Aleshki, Soviet Ukraine (Cat. no. 85); 4. Strap Ends, Concesti, Soviet Moldavia (Cat. no. 79); 5. Buckle, Kerch, Crimea (Cat. no. 90); 6. Grave Goods, Pouan, France (Cat. nos 103, 104 and 147).
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1, 1a. X-radiograph and schematic drawing of Sword Guard, Altlussheim, Germany (Cat. no. 115);
2, 2a. Casket, side and top, Varna, Bulgaria (Cat. no. 121) No. 1, enlarged; nos 1a, 2, 2a, 1:1.
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1, 1a, 1b. Necklace and Earrings, front and reverse, ancient Olbia, near Odessa, Soviet Ukraine (Cat. no. 124).
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1, 1a. Eagle Fitting, front and reverse, Concesti, Soviet Moldavia (Cat. no. 125); 2. Eagle Fibula, Ossmanstedt, Germany (Cat. no. 126); 3, 3a, 3b. Fragmentary Ornament, front, back and enlargement of back, Kerch, Crimea (Cat. no. 171). Nos 1, 1a, 2, 3, 3a, 1:1; No. 3b, slightly enlarged.
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1. Panel, Austria (Cat. no. 129); 2. Grave Goods from Wolfsheim, Germany (Cat. nos 12, 130). No. 1, 1:1; No. 2, no scale.
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1. la - c. Two Strap Ends and enlargements of same, Szeged-Nagyszéksós, Hungary (Cat. no. 132);
2. Buckles, Strap Ends, Tabs and Gold Plaque, Germany (Cat. no. 135). Nos 1, 1a, 2, 1:1; Nos 1b, 1c, enlarged.
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1. Sword fittings, Tournai, Belgium, Left: Spatha Pommel. Upper and Lower Guards (Cat. no. 143), Bottom Left: Seax Mouthpiece (Cat. no. 141), Right: Seax Scabbard and Chape Fittings (Cat. no. 144);
2. Paten, Gourdon, France (Cat. no. 142). No scale.
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1, 1a Chiflet's drawings of lost ornaments from Tournai; 2. Seax Scabbard Fitting and Chape, Tournai, Belgium (Cat. no. 144). Nos 1, 1a no scale; No. 2, 1:1.
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1. Seax Fittings (Cat. nos 100, 120); 2. Shoe Buckles, Distributors and Strap Ends (Cat. no. 146); 3. Belt Buckle (Cat. no. 137); 4. Gold Arm-ring. All from Blučina, Czechoslovakia. No. 1, no scale, Nos 2, 3, slightly reduced.
Plate 15

1. Spatha Scabbard Mouthpiece (Cat. no. 147), 1a. Reconstruction of spatha scabbard with mouthpiece and scabbard slides, Fouan, France. No 1, enlarged; 1a, slightly reduced.
Plate 16

1. Horse-headed Pendants (Cat. no. 98); 2. Cup Mount (Cat. no. 151); 3. Shoe Buckle (Cat. no. 150);
4, 4a. Buckle, top and side (Cat. no. 149). All from Apahida I, Romania. All 1:1.
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1, 1a. Purse Lid, side and top, Apahida II, Romania (Cat. no. 152). Both 1:1
Plate 18

1, 1a. Buckle, top and back (Cat. no. 153); 2. Purse Lid Buckle (Cat. no. 154); 3. Purse (?) Fitting (Cat. no. 155); 4, 4a-c. Shoe Buckles and Strap-End, (Cat. no. 156); 5. Buckle, Kerch, Crimea (Cat. no. 167); 6. Buckle, Esslingen-Rüdem, Germany (Cat. no. 168). Nos 1-4, Apahida II, Romania. All 1:1, except 4c, enlarged.
Plate 19

1. Seax Pomme (Cat. no. 157); 2. Scabbard Slide (Cat. no. 158); 3. Fittings in the Shape of Vultures (Cat. no. 159). All from Apahida II, Romania. All 1:1.
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1. Small Rosette (Cat. no. 160); 2. Medium Rosette (Cat. no. 161); 3, 3a. Large Rosette, front and reverse (Cat. no. 162); 4. Violin-Shaped Fitting (Cat. no. 163); 5. Fitting (Cat. no. 164); 6. Strap End (Cat. no. 166); 7. Harness Fitting (Cat. no. 165). All from Apahida II, Romania. All 1:1, except no. 1, enlarged.
Plate 21
1. Necklace, Iran (Cat. no. 172); 2, 3. Two Medallions, "Taxila", Pakistan (Cat. no. 174). No. 2, Victoria and Albert Museum; no. 3, Cleveland Museum. No. 1, reduced; nos. 2, 3, 1:1.
Plate 22
1. *Fibula*, Rebrin, Czechoslovakia (Cat. no. 128); 2, 2a. *Fibula* Front and Reverse, Pietroasa, Romania (Cat. no. 176); 3. *Head and neck of Eagle Fibula*, Pietroasa, Romania (Cat. no. 175). Nos. 1, 2, 1:1, Nos. 2a, 3, no scale.
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1. *Pair of Fibulae in the Form of Vultures*, Pietroasa, Romania (Cat. no. 177). Slightly reduced.
Plate 24

1. Detail of Shield Rim, Sárviz River, Hungary (Cat. no. 180). 1:1
Comparative Plate 1

1. Bow-driven wheel from a gem-engraver's tombstone (right side restored), second century AD, Lydia (after Boardman 1970); 2. Amir Pahlavan using a bow-driven wheel and 2a a bow-drill to work jade, 1940s, India (photographs courtesy Robert Skelton).
Comparative Plate 2

Comparative Plate 3

1. Loose garnet plates from the Apahida II ornaments, Romania (after Horedt and Protase 1972).
Comparative Plate 4
1. Ear-ring with a cabochon garnet bar, reportedly from Beirut, Lebanon (after Schlunk 1939); 2. Pair of ear-rings with tabular garnet beads, third century AD, Bonn, Germany; 3. Necklace with rhomboidal garnet beads, Roman Period (British Museum no. 72, 6-4, 663).
Comparative Plate 5

1, 1a. *Perfume flask*, first century AD, Kokhlach tumulus, Novocherkassk, Russia (State Hermitage Museum, Leningrad).
Comparative Plate 6
Comparative Plate 7

1. The Emperor Honorius on the Probus diptych, ca AD 406 (after Volbach 1952); 2. Porphyry statue of a Roman military officer, post-Constantinian, Turin, Italy (after Delbrueck 1932).
Comparative Plate 8

Comparative Plate 9

Comparative Plate 10
1. Cloisonné cross and belt fittings, late fifth to early sixth century AD, Varna, Bulgaria (after Venedikov 1965); 2. Mosaic Floor, first half of third century AD, Room xi, Thuburbo Majus, Tunisia (after Ben Abed-Ben Khadar 1987).
Comparative Plate 11
Comparative Plate 12
1-3, 3a *Horse Harness Mounts*, Morskoy Chulek, Russia, 1:1.
Comparative Plate 13

MAP 1. Distribution of individually inlaid garnet plates and ornaments constructed in Gold Sheet and Paste Technique.
MAP 2. Distribution of Cloisonné Ornaments in Medallion and Rectilinear Styles, Phase I and Medallion and Unit Cell Combination.

Sites and Catalogue Numbers

1. Adshimushkai, Kerch (28)
2.△ Aragvispiri (20,22-23)
   ■ Aragvispiri (21)
3. Armazis-khevi (7)
4. Bolshoi Kameneus (24)
5. Hatra (16)
6. Kerch Glinishch (58)
   △ Kerch, 24.6.1904 Tomb (26, 56-57)
   ■ Kerch, 24.6.1904 Tomb (59-62)
7. Mtskhet (18)
8. Rostov-on-Don (29)
9. Sopasa (31)
10. Ureki (19)
MAP 3. Distribution of Cloisonné Ornaments in Unit Cell Style, Mosaic Style I and Mosaic Style I, Phase II.
MAP 5. Distribution of Cloisonné Ornaments in Rectilinear and Mosaic Style Combination and Rectilinear and Unit Cell Style Combination.
MAP 6. Distribution of Cloisonné Ornaments in Notched Plate Style (Stepped Rhomboids) and Cabochon Bar Style.
MAP 7. Distribution of Cloisonné Ornaments in Mosaic Style II and Other Styles, compared with Late Antique/Early Byzantine Ornaments with repoussé gold sheet backing.
MAP 8. Distribution of Cloisonné Ornaments in Carpet Style and Architectural Style.

Sites and Catalogue Numbers
1. Apahida I (149-151)
2. Apahida II (152-166)
3. Beregovo (169)
4. Blučina (146)
5. Esslingen-Rüden (168)
6. Kerch (167)
7. Morskoy Chulek (comp. pl. 12)
8. Oros (148)
9. Pietroasa (175, 178)
10. Pietroasa (179)
11. Pouan (147)
12. Sárviz (180)
13. Tourmai (144)
14. Turkey (145)