

THE DEVELOPMENT AND SPREAD OF COMPOUND WEAVE TEXTILES
WITH PARTICULAR REFERENCE TO
WEFT-FACED COMPOUND WEAVE TEXTILES IN WOOL FROM EGYPT

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7. THE HISTORY AND PRODUCTION OF WOOL COMPOUND WEAVE TEXTILES IN EGYPT FROM THE LATE ROMAN PERIOD ONWARDS

7.1. Introduction

The present chapter concentrates on the production of compound weave textiles in wool in Egypt from about the third century A.D. to the end of the Mamluk period in the sixteenth century. The prominence accorded to Egypt has been based on two factors, firstly, a considerable quantity of information has survived concerning the structure and range of cloth which was produced by the Egyptian textile industry. Secondly, the majority of silk and wool compound weave textiles excavated within the confines of the Roman Empire were actually found in Egypt. Nubia has been deliberately excluded from the title of this chapter as it would appear that there was no structured textile industry in this region producing highly elaborate and complex cloth of the type under discussion. This is not to say, however, that no textiles of any type were being produced in the region, rather that the Nubian textile industry was geared towards the production of a totally different range of goods. In addition there is also the question were compound weave textiles in wool being produced in other areas of the Eastern Mediterarrean, most notably Syria? This point will be discussed in Chapter 8.

As outlined previously, I decided to study the wool compound weave textiles because as yet no silk compound weave examples have been reliably recorded from any archaeological excavation in Egypt or Nubia. All too often extant examples were found during nineteenth century excavations where no concern was given to accurate recording methods,

while other textiles have simply been given a suitable provenance by dealers. The date given above has been used because the earliest wool compound weave textiles from Egypt, namely those from Antinoë, are believed to be third century in date (see Chapter 2).

In order to look at the history and development of the compound weave in Egypt, the following chapter covers four distinct elements, firstly, a discussion concerning the history of wool compound weave textiles within the Egyptian textile industry. Secondly, there will be a discussion of the problem as to where exactly the wool compound weave textiles may have been made. Thirdly, some general comments will be made about the question of who may have produced the textiles. Finally, there is a brief description of a group of weavers from the city of Akhmim, Middle Egypt, who are currently producing compound weave textiles.

Problems relating to the production, distribution and 'exportation' of silk compound weave textiles in the Western and Eastern Roman Empire, plus the relationship between silk and wool compound weave forms will be discussed in Chapter 8.

Before delving into these points however, it would first seem necessary to give some details concerning the structure of the Egyptian textile industry during the period under discussion.

7.2. The Egyptian Textile Industry

When the Roman Emperor Caracalla (A.D. 211-217) referred to the peasant or *felaheen* 'invaders' of Alexandria as "the linen-weavers", he intended to use the term in a deliberately insulting manner (P. Giss. 40). It is common to pick upon an obvious and well-known 'fact' when attempting to insult another person or people. A suitable, modern

example would be the way in which the English refer to the French as "froggies", presumably after the French habit of eating frogs' legs. Caracalla's comment refers to the traditional production of flax cloth in Egypt which can be traced back for thousands of years [1]. By the first millennium A.D. Egypt was not only a major producer of textiles, but it was also an important exporter of cloth. For example, textiles which are believed to be Roman Egyptian in origin have been found in places as far away as Cologne in W. Germany and Conthey in Switzerland [2]. Indeed, Egyptian linen had become so vital to the Roman world that when there was a strike of weavers in Egypt during the third century A.D. the Emperor Gallienus († A.D. 268) is reputed to have cried "What! Can we get along without Egyptian flax?" [3].

It would appear from a number of contemporary sources that the production of cloth in Egypt prior to and during the Roman period could be divided into four basic types, namely, domestic; royal household and state; temple, and commercial. All except the temple production of cloth continued well into the medieval period and two of these forms, namely, commercial and domestic weaving (albeit on a smaller scale) are still practised to this day.

Domestic Production of Cloth: The production of cloth within the domestic setting in Egypt was not as widespread as might first be expected [4]. The setting up of a textile workshop with spinning, weaving and finishing equipment would have entailed many expenses, including the costs incurred by labour and raw materials. In addition, there is evidence to suggest that people in Egypt from Pharaonic times onwards were paid for their work in kind, i.e. with food and clothing rather than money [5]. As a result, therefore, it was unnecessary for

many people to weave large or complex pieces of cloth at home. Such a situation is indicated in the early fourth century A.D. Edict of Diocletian in which a wide range of poor quality clothes were on general sale for "the use of the common people and slaves" [6]. Thus, it would seem unlikely that either a small landowner or a *felaheen* could have afforded to weave textiles for his own domestic use or indeed was actively encouraged to do so.

On the other hand, there is evidence to suggest that large private establishments throughout the Greek and Roman world did have their own weaving workshops or *textrinia* [7]. The Egyptian textile historian M. A. A. Marzouk interpreted a passage in the third century B.C. work by Theocritus called the *Idylls* as meaning that all textiles in Alexandria were domestically produced [8]. The passage in question concerns the purchase of five fleeces which were meant for spinning and presumably weaving at home, but the mistress of the house was complaining because of the poor quality of the fleeces:

"Yesterday for seven drachmae he bought dog's hair, pluckings of old wallets, nothing but dirt, work without end. Five fleeces it was. But come; get your dress on and your wrap. Let's go and see the *Adonis* in our rich king Ptolemy's palace".

The other speaker then goes on to say:

"That full dress suits you very well, Praxinoa. What did it cost you off the loom? Tell me.

Don't remind me of it, Gorgo; more than two minas of good money, and as for the work, I put my very life into it" (Theocritus, *Idylls*, XV, 18-19).

It would seem from these passages that, although some textiles were woven at home, more elaborate and expensive forms were purchased from

professional weavers and in some cases further elaborated at home, possibly by embroidery.

Certain other points should also be highlighted, firstly, the fact that the two 'heroines' had the time and leisure to visit a performance of *Adonis* given by Queen Arsinoë II († ca. 272 B.C.); secondly, that the poor quality of the wool was not heralded as a financial disaster, and thirdly, that they had at least two servants in immediate attendance. All of these points would suggest that Theocritus was intending to describe a wealthy household where textiles were produced for ordinary usage, but fine cloth, at least for the mistress's clothing, was bought from a professional weaver. The passages can therefore be used to support the idea that *textrinia* were to be found in the homes of the well-to-do and that they were basically used to produce clothing and simple textiles, such as bedding, towels, etc., which had definite, essential household functions.

A similar situation is indicated in a first century A.D. letter from a man called Apollonius in Alexandria to his son who was also called Apollonius (P. Oxy. 1153): "..... If I can buy a cloak for you privately, I will send it at once, if not, I will have it made for you at home"

It can also be shown by comments made by Ammianus Marcellinus (b. ca. A.D. 330-333), concerning the armies of slaves employed in houses in Rome, that private workshops of this kind were still in existence in the Roman world well into the fourth century A.D. (Ammianus Marcellinus, *Res Gestae*, XIV, 6, 17).

Very little seems to be known about the production of textiles in a domestic setting during the early Islamic period in Egypt, but it would

seem likely that the situation described previously continued. One change, however, which is noticeable during the Islamic period is the increase in the types of textiles being produced in Egypt, and the expansion in the range of markets in various Islamic countries [9]. Nevertheless, these changes seem to have affected the material found in the markets rather than those produced in the home.

The Royal Households and the State: Under the Pharaonic and Ptolemaic systems a large number of weavers (both slaves and free) were employed within the Royal Households in order to create a steady supply of textiles [10]. These were used both within the court and also as gifts to temples, visiting dignitaries, etc.

The existence of the Royal workshop under the last Ptolemaic ruler, Cleopatra VII, is suggested in an unusual, and perhaps somewhat dubious, source. According to the fifth century A.D. writer Paulinus Orosius, Octavian (Augustus) put to death in ca. 30 B.C. a Roman senator called Ovinus on the grounds that he had dishonoured his name by accepting a post under Cleopatra as director of the royal *lanificio* or wool spinning and weaving workshop [11]. Such a position may have been a sinecure, but it would certainly have placed Ovinus within Cleopatra's and Antonius' sphere of influence. Whatever the reasons behind Octavian's act, if indeed it ever took place, it is interesting to note that Cleopatra's palace was reputed to have had such a weaving workshop and that the post of director was regarded as suitable for a Roman senator.

Following the beginning of Roman rule in 30 B.C. the royal workshops were taken over by the Roman state. Cloth produced under the new system took two forms, namely, material woven in the state workshops or *gynaecaea* for the Imperial Household and military use [12]. Secondly, there was a

levy of cloth on commercial weavers which was again destined for military use.

Very little information, however, appears to be available concerning the range of textiles produced by the various *gynaecaea* for use in the Imperial Household [13]. It would seem likely, nevertheless, that the range was similar to that used in the Ptolemaic court, namely, fine clothing, bedding, curtains, etc., as well as textiles suitable to be given away as gifts.

More details are available concerning the range of textiles required by the military in Egypt and elsewhere [14]. These requisites consisted of clothing and were described as the *vestis militaris*. According to R. MacMullen these were made up of three basic items: tunics, mantles and blankets, plus, light cloaks, 'himatines', blankets, boots, chitons, small cloaks, Syrian mantles and finally, "outfits" (*ετολαι*) [15]. These items included both wool and flax textiles, which, again according to MacMullen, were not always of the best quality: "Evidently imperial troops, so far from receiving richly decorated uniforms, in fact were fobbed off with the very worst" (MacMullen, 1958, 187). One reason for the poor quality of the textiles may lie in the fact that at various times the imperial *gynaecaea* also housed slaves, runaway weavers, convicts and Christians sentenced to penal servitude [16]. Indeed, all the inmates, whether convict labour or not appear to have suffered "rough and miserable toil" [17].

The production of cloth under state control in Egypt continued after the Islamic invasion of the mid-seventh century, but it would appear that the products were increasingly used for the benefit of the new rulers, the Caliphs. The *gynaeseum* system in Egypt developed into the *tirez*

workshops where silk textiles, robes of honour, etc., were produced [18].

Temple Production of Cloth: Due to the lack of contemporary evidence it is now difficult to assess the importance or extent of cloth production within temple complexes. It would appear, however, that the prime function of the temple weavers was to produce cloth which was to be used within the temple precincts itself, and as gifts and objects of exchange [19]. New linen clothes, for example, were required daily for the dressing of the images of the gods [20]. Cloth was also needed for the wrapping of bodies of sacred birds and animals.

Curiously, a number of Ptolemaic temples also kept sacred flocks of sheep which were apparently exempt from the pasturage tax (*εὐνομίων*; Evans, 1961, 231). But there is no evidence to suggest that these flocks were used to supply wool for garments which were worn by the priests themselves or that they were used in burials [21]. Nevertheless, this is not to say that wool was ^{never} ~~neither~~ used in the temples (perhaps as blankets), or by the lay members of the temple [22]. It is also possible that the flocks represented an additional source of income which according to J. A. S. Evans, "the state allowed the temples to engage in" (Evans, 1961, 231).

It should be noted that not all temples had workshops, for example, during the late first and early second century A.D. one of the main temples at Tebtunis had a *Burroupyoi* attached to it, presumably for the production of *Burros* or fine linen cloth (*byssos*) [23]. On the other hand, in an early third century A.D. receipt from the chief priest of the temple of Helio-Re and Mnevis-Atum, to Maron at Tebtunis, acknowledgement

is made of the arrival of 20 cubits of *burros* for the burial rites of the Mnevis bull (P. Tebt. 313; A.D. 210-11).

In general it would appear that the production of cloth within the temple complexes was limited to the weaving of linen cloth for use within the temple confines. Following the widespread acceptance of Christianity in Egypt and its recognition as the official state religion of the Roman Empire in the fourth century, the role of the temples gradually declined and with it their production of cloth. In their stead, various self-sufficient monastic communities sprang up all over Egypt, which also produced cloth for their own usage [24].

Commercial Weavers: The last group to be described in this section also forms the largest and the most complex, namely, the commercial weavers. It is known from surviving papyri that the commercial production of textiles during the Ptolemaic and Roman periods was carried out throughout Egypt and that it was not solely restricted to large commercial centres such as Alexandria. But what is not clear is the exact structure of the commercial textile industry at any one time or indeed throughout the whole of the Roman period. Various scholars have written about the structure and organisation of the commercial weavers, and one point which is clear is that although a general picture of their role can be presented, very few specific details are actually available [25].

Despite this situation, it is still possible to identify several different groups of commercial weavers and also the range of goods which they may have produced. For example, the existence of itinerant weavers is suggested in a papyrus from Oxyrynchus (P. Oxy. 736; c. A.D. 1). The text is basically a series of household accounts, but reference is made

to the costs incurred in giving a weaver breakfast (one obol), plus one obol's worth of beer when he had finished his job, which, according to the late American economist A. C. Johnson, was probably the making of a cloak (Johnson, 1936, 321)

A more prosperous weaver is indicated in another papyrus, in which the lease on two thirds of a house was acquired by (Aurelius?) Soter of Heracleopolis from Aurelius Callinious (SPP XX53; A.D. 246). The lease specified that he would be working three webs or looms, but if he wanted to make garments for his own use he was allowed to set up a fourth web or loom. The document would suggest that Soter was a free-lance weaver of some form, who was sufficiently wealthy to have his own looms or to control at least three looms, and to lease a house in which to weave. The restriction exercised on the number of looms that Soter was allowed to set up also illustrates an important factor in the life of a Graeco-Roman period weaver in Egypt, namely, the influence of state control [26].

Most weavers seem to have belonged to 'guilds' which were responsible to the state for the number of looms which were in operation within a locality and for the minimum amount of cloth that individual weavers had to produce [27]. These controls were partially designed to prevent the illegal production of cloth and thus the ensuing loss of revenue to the treasury, and secondly to make sure that the requisites of the army were met [28]. It would appear that each province or *nome* had to provide the army with an annual quota of clothing, which was either used by the Egyptian garrison or as suggested by the above quotation, by soldiers garrisoned in other areas of the Roman Empire [29]. According to J. P. Wild, the amount of cloth which the weavers had to provide was dependent upon the number of *iuga* or land units within an area, plus the

capita or units of personnel and stock (Wild, 1967a, 655). During the fourth century A.D. the quota in Egypt was set at 1 *vestis* per 30 *iuga* (Cod. Th. VII, 6, 3; A.D. 377). A *vestis* or set of clothing was comprised of five cloaks, six shirts and half a *pallium* (blanket?; Wild, 1967a, 655).

In order to ascertain that the guilds were actually fulfilling their 'duties', they were subject to the power of a master of the looms (Johnson, 1936, 255). He was authorised to license, or deny licenses to, weavers wishing to set up looms, and to issue requisite orders to the guilds for providing the clothing, etc. for the Roman army and the various taxes upon the weaving trade (Wallace, 1938, 193, 199). He in turn had to hand the clothes over to receivers (*collatores, exceptores vestium*) who were appointed by the state (Wild, 1967a, 655). MacMullen, in a more prosaic manner, described the situation as follows: "..... By presenting the municipal authorities an order for army equipment, and by leaving those harassed officials to dump the problem on local artisan guilds, the Roman army procured for itself just about any product that it needed" (MacMullen, 1958, 189).

It is clear from various contemporary documents that a distinction was made between the weavers of wool and flax [30]. Sometimes, however, it is not clear whether the terms used represent different goods from the cities named or, as would seem more likely, that they were produced in a number of towns but were named after one particular place which had become especially famous for its production. For example P. Oxy. 3201 (third century A.D.), refers to Dalmatian robes and vests, as well as a linen shirt of Tarsian weave.

A modern analogy to this situation would seem to be the English use of the term "damask" for a specific type of weave or cloth, which derives its name from the Syrian city of Damascus. Another example is the Dutch term *manchester* for thick cordoury material. It would also seem, however, that specific towns in Egypt were famous for the production of certain types of cloth, for example, the first century A.D. sea trading manual, *The Periplus of the Erythraean Sea*, refers to Arsinoitic robes as well as dresses and dyed cloaks, i.e. objects from the Egyptian city of Arsinoë (*Periplus*, 6, 8).

A distinction was also made in both the appellation of weavers (male, female, free or slave), and the goods that they produced. For example, there are specific references to Tarsian weavers (*tarsikarioi*), Tarsian yarn, and a Tarsian weaver's loom [31].

The points made above would also suggest that a considerable difference was made by the weavers themselves as to what type of cloth they wove. Perhaps another analogy can be seen in a description given in a nineteenth century book on travels in Northwestern India by J. Wood in the 1830's:

"Bhawulpur [in the Punjab region of modern Pakistan] enjoys a well merited reputation for the various silk articles which are here fabricated. The texture is generally formed of silk and cotton and the cloth is justly admired for the beauty of its patterns, the lustre of its colours We examined three establishments, having in all thirty looms, not one of which was without its web. Each weaver is restricted to a single pattern, to which from early youth he has been habituated" (Wood, 1872, 39).

It would appear from the various discussions given above that the commercial production of textiles in Egypt was both a complex and a highly structured industry, which can be viewed from numerous different

aspects. One point which does become clear is that a sharp division was made between the weavers of various types of cloth and that it was considered normal for one weaver to produce a clearly defined type or range of cloth.

Another point which is indicated by the above discussions is that the so-called Egyptian textile monopoly did not really exist in the modern sense of the word. The control and gathering of revenue generated by the production of textiles appears to have been of paramount importance to the state, but there would seem to be no indication that the state deliberately restricted the production of certain types of cloth in private or commercial workshops in favour of the cloth ~~which was~~ produced in state controlled workshops. Instead, there seems to have been a strict state control on the minimal amount of goods produced so that the state did not lose revenue, etc.

7.3. Some Comments Concerning the Production of Compound Weave Textiles in Wool within Egypt

The subjects covered in this section vary considerably. Firstly, there is a discussion concerning the history of wool compound weave textiles in Egypt based on examples which have come from archaeological sites in that country. Secondly, there is a discussion about who may have made the compound weave textiles, how the textiles may have been commissioned, and finally, what was the market position held by the Egyptian wool compound weave textiles. All of these points are fraught with a number of difficulties due to a lack of detailed information concerning the role of weavers and the question how cloth was marketed in Roman Egypt. Nevertheless, some concept of the situation can be gained.

7.3.1. Egyptian Compound Weave Textiles in Wool

The following discussion about the history and development of compound weave textiles in Egypt concentrates on several aspects, namely, the archaeological evidence for the spread and distribution of compound weave textiles in wool, and the problems relating to this evidence.

As noted previously, the earliest known wool compound weave textiles in Egypt come from the Middle Egyptian site of Antinoë [32]. So far, seven wool compound weave textiles were found during excavations at this site, three during the Gayet excavations of 1896-97 and four from the de Johnson excavations of 1913/14 [33]. The latter four examples, however, have to be discounted because de Johnson published no detailed information concerning "the rubbish from the city", nor does the Egypt Exploration Society for whom he was working have any files relating to these wool compound weave textiles or any information concerning why they were sent to various museums in England, Belgium and America [34].

Unfortunately, there are also a number of problems concerning the wool compound weave textiles which came from the A. J. Gayet excavations. As a result, various controversies have arisen concerning the date which should be attributed to them. For example, M. Th. Picard-Schmitter dated the textiles to no later than the first century A.D., while D. King regarded them as being no later than the third century in date [35]. On the other hand, M. S. Dimand has given them a third to fourth century A.D., a point upon which J. P. Wild and I are in agreement [36].

These dating problems stem from the fact that although it is known that these textiles were excavated during the 1896/7 seasons, they were somewhat ambiguously published. Fuller details concerning this problem

have already been given in Chapter 2, but they can be summarised here as follows. According to Gayet, the textiles were found under the head of a masked mummy which was found in the Roman Necropolis B (Gayet, 1897, 60). The mask may be identified with either the "Sabine mask" or the "brown mask" (Gayet, 1897, 60). In Guimet's account of the textiles, however, the caption to Plate III, in which the relevant textiles are illustrated, reads: "Coussins placés sous les têtes des Dames Romaines", implying that the textiles came from several burials, and can be identified with both the Sabine and brown mask burials (Guimet, 1912, 4). The masks were regarded by Guimet as belonging to the period when the new city of Antinoë was founded, namely in A.D. 130. A German scholar called G. Grimm, who was working on the subject of Egyptian mummy was in favour of a mid-second century date (Grimm, 1974, 67-8). According to K. Parlasca, however, a German scholar working on this subject, the Sabine mask should be given a slightly later date (Parlasca, 1966, 129). Interestingly, the production of mummy masks appears to have continued in Egypt until the end of the pagan era (circa mid-fourth century A.D.), so the date of these masks, in theory, could be as late as the fourth century (Zaloscer, 1961, 48ff.). It should be noted, however, that there is no evidence to suggest as Picard-Schmitter did, namely, that they could be of a first century A.D., or even earlier date.

The opinions expressed above by Gayet and Guimet form the basis for the second century date given to the introduction of compound weave textiles into Egypt by such scholars as King, etc. [37]. It is possible, however, that these dates do not take into account certain other points, notably, the age of the masks before they were used? Were they made from a standard and well used mask mould, thus reflecting an older style of

mask? Or the question how long the mummy had been stored in the family home before it was buried [38]. Thus, while it remains possible that the masks or masks may have been mid-second century A.D. in date, the idea that these compound textiles could have been somewhat younger should also be taken into consideration.

A third century date for the Antinoë compound weave textiles would also agree with a number of other factors. Firstly, no compound weave textiles have been satisfactorily identified from amongst the early Roman textiles from recent excavations in Egypt and Nubia, for example, at Quseir al-Qadim (first to second centuries A.D.), and Qasr Ibrim (Meroitic levels), or among those pieces from the comparably dated textiles from the Cave of Treasures in Israel and the At-Tar Caves in Iraq [39]. In addition none of the compound weave textiles found in Egypt can be satisfactorily given a pre-third century date. Indeed, most of them appear to belong to the fourth century or later (this point will be returned to later). Secondly, the discovery of silk warp-faced compound weave textiles from China at Dura Europos (destroyed in A.D. 256); Palmyra (destroyed in A.D. 273) and Halabiyeh (founded during the third century A.D.), point to late second, but more feasibly, a third century introduction for this type of cloth in the West [40]. Taken together, these points make it seem unlikely that the production of elaborate wool compound weave textiles in the West could have commenced as early as the beginning of the second century A.D.

In addition to indicating a third century date for the Antinoë compound weave textiles, the above points would also suggest that clues to the early development of the weft-faced compound weave should be sought for outside of Egypt. One of the first people to put forward this

idea was the French textile historian R. Pfister. He suggested that the compound weave textiles found at Antinoë were of an Iranian origin (Pfister, 1948, 46-75). His suggestion for this origin was based on various points, firstly, that weft-faced compound tabby weaves were an alien form for Egypt; secondly, the spin direction of the textiles was 'z' as opposed to the more normal s-spun form found in Egypt; thirdly, the design of the textiles from Antinoë could be compared with designs found on other objects which have been given Iranian provenances [41].

These comments, however, can only be justified if it can be shown that the Iranians had a textile industry during the second and third centuries A.D. which was actually capable of producing compound weave textiles, and that nobody else at that time or in that region of the "known world" actually possessed a comparable textile industry.

Unfortunately, as noted in the previous chapter, few textiles have actually survived from the Iranian region which date from the period in question. Nor have written records survived which would confirm, or exclude, such a possibility. Certain textile designs depicted on surviving late Parthian (circa first to second centuries A.D.) rock carvings, sculptures, etc., would suggest that the Parthians at this time were capable of producing elaborate and decorative textiles [42]. Nevertheless, the exact nature of these textiles is unknown, so it could equally be suggested that they were either embroidered or tapestry woven [43].

The only large group of textiles to be found within the area comes from the Iraqi site of At-Tar and it is clear that these pieces have strong Western links [44]. It should also be noted that a number of these pieces are tapestry woven, for example, several fragments of a fish

tapestry similar to that found at Antinoë by Gayet [45]. In addition, the At-Tar textiles have been dated from the second century B.C. to the third century A.D. (Sakamoto, 1988, 4-5). If it is presumed that these textiles are representative for the contemporary range of cloth available in this area around At-Tar, then it implies that the compound weave textiles were not being produced in the western Iranian lands at the time in question. Nevertheless, due to the lack of any other textile evidence from the region, this must be regarded as being a far from satisfactory conclusion.

In respect to another point made by Pfister concerning the spin direction of the Antinoë compound weave textiles in comparison with Iranian textiles, it should be noted that the At-Tar finds included textiles woven from 's/s', 'z/z' as well as s/z-spun yarns [46]. Again, this leaves open the question of whether s-spun equals Egyptian, z-spun equals elsewhere. In addition, the fish tapestry mentioned above which was found at Antinoë also contains s and z-spun yarns, thus once again disproving Pfister's suggestion (Jospin and Vial, 1983, 27). J. Beckwith noted in respect to Pfister's fascination with the spin of threads, that:

"..... his apparently neat theory landed him soon enough into difficulties and contradictions. A great many textiles found at Dura and at Palmyra - as well as those found in Egypt - contain fibres spun in both right and left directions In textiles where the direction of the spinning is uniform, Pfister's theories are sometimes more acceptable, though his views on left-spun cotton led to an impasse which cannot be faced without irony" (Beckwith, 1957, 4).

As a result of these points, it would seem reasonable to treat this aspect of Pfister's 'evidence' with a degree of caution.

Returning to the compound weave textiles found by Gayet at Antinoë, it would appear feasible to suggest that they were neither Egyptian nor Iranian in origin. Thus it is necessary to put forward some suggestions concerning where they may have come from. It would seem reasonable to assume that it was a place which had strong direct or indirect contacts with the East; as can be shown by the fact that the warp-faced compound weave originated in China and may have been 'converted' to a weft-faced form in Eastern Turkestan (see Chapter 4). This also leads onto the idea that some form of trade contact must have existed within this 'unknown' western area in order that a number of Eastern compound weave textiles could have been seen in order to copy and adapt the weave to more western textile techniques and technology.

Secondly, if the point made by Pfister is accepted, namely that the designs associated with the Antinoë compound weave textiles are not Egyptian in origin, but come from further eastwards and may have been Iranian in derivation, as would seem possible, then it would seem necessary to seek a region influenced by the Iranians over a long period of time [47]. Such an influence must also have extended to cultural and artistic concepts. Thirdly, it would seem likely that the area in question had a textile industry which was capable of producing both complex and decorative textiles, and that there was a sufficiently large market for these textiles. Fourthly, and finally, it was an area which had strong contacts with the West, both in respect to trade and culture. Hence, the fact that a number of compound weave textiles could be found in Egypt and in particular at the 'Greek' city of Antinoë.

All of these details point at the Eastern Mediterranean region of Syria or, slightly further inland, to Roman influenced Mesopotamia. It

can be shown, for example, by the silk warp-faced compound weave textiles found at Palmyra and Dura Europos that these areas had strong trade contacts with China and Eastern Turkestan. Other textile finds from these two cities indicate that there was a population rich enough to support such a textile trade, as well as one which appears to have used decorative textiles [48]. These points can be confirmed by contemporary accounts of the production, marketing and use of textiles in these regions. For example, the Phoenician and Syrian dye industry had long been famous [49]. Roman descriptions of this region, for example, refer to the highly prized flax and wool textiles [50]. In addition to these sources, there are also more prosaic forms such as tax receipts and tariff charges which refer to textiles [51].

Many of these cities and towns in Syria and Mesopotamia were also originally established by Greek colonies and had long been under the influence of Hellenism [52]. It is not surprising, therefore, that these places had close trade and cultural contacts with lands further to the west. Such cultural links are expressed quite succinctly by the Greek style of costume worn by many of the figures in extant sculptures, tomb reliefs, etc., from Palmyra [53]. At the same time contacts with Parthian, Arabian and Armenian peoples are indicated by the names found on tomb reliefs from the regions [54]. Such links, however, are not surprising as a number of cities, including Palmyra, were occupied at various times by the Parthians and Sasanians, and that Aramaic plus Greek were the official languages of this region [55].

As a result of these points, it would seem reasonable to suggest that the Antinoë wool compound weave textiles may have originated in Syria/Mesopotamia rather than in Greater Iran and that they were third

century A.D. in date. In addition it would seem likely that it was a city (or perhaps cities) where the production of elaborate cloth was regarded as a normal part of the textile industry. In this context, cities such as Palmyra and Dura Europos should be regarded as feasible, if not excellent candidates for this distinction. But it should also be borne in mind that there were many other cities in Mesopotamia and Syria which could equally claim this title, for example, Damascus or Antioch. Nevertheless, as yet, there is no archaeological evidence to support such claims.

The above discussion, however, does not really help to explain how compound weave textiles came to Egypt, or when the Egyptians first started to weave their own wool compound weave textiles. In order to examine these points it is necessary to return once again to the French excavations at Antinoë.

During the course of his later excavations at Antinoë, Gayet found a number of objects which would suggest that there had been strong links between the city and the Syrian/Mesopotamian regions. During a lecture he delivered in Paris in 1900, Gayet appears to have been particularly taken by a mummy of a woman found during his fourth excavation season (1898-99; Gayet, 1901, 78). According to Gayet the mummy mask had a hair style reminiscent of that worn by the Empress Sabine, wife of Hadrian [56]. Several points were stressed by Gayet, firstly that there was a costume in the tomb which was in red wool with yellow embroidery, but that this costume was "*gréco-asiatique*" i.e. Syrian Mesopotamian rather than in a traditional, Western or Byzantine style:

"Mais, détail qui a une particulière importance, le vêtements qui se drape aux épaules de la défunte n'est point la robe à larges manches que montrent les peintures

byzantines, mais bien le long shâle de toile blanche, à mémaillons violet, enfermont des rinceaux et des entrelacs géométriques, et encadré de motifs à pendentifs lancéoles Quoi qu'il en soit, cette opposites, sur la même toile, du costume classique et du costume gréco-asiatique classe cette sépulture comme contemporaine de la fondation hadrienne, et témoigne que le part des deux costumes se trouvait être simultané" (Gayet, 1901, 78).

In addition to the mummy described above, Gayet also referred to a second burial he had found of a woman called Euphemiaân, who had embroidery equipment in her tomb. These objects included needles, spindles with wool, weaving combs and possible a shuttle (*aiguilles employées à écarter les fils de la trame*). According to Gayet the burial also contained covers of wool and silk [57]. Once again there were embroidered garments in the tomb which Gayet speculated had been embroidered by her own hand (Gayet, 1901, 80). On the feet of the body were the sandals and on the base of these sandals there were inscriptions written, according to Gayet, in Greek but in an Asia Minor style: "La forme de l'¥ est celle qu'on retrouve en Asie Mineure de l'an 150 à l'an 200 de notre ère; l'Y traversé d'un trait horizontal ¥" (Gayet, 1901, 80). The burial was given a third century date by Gayet (*ibid.*).

If the information given by Gayet is correct, then it would suggest that the first burial was that of a woman of Syrian/Mesopotamian origin, and that the second burial indicates cultural and trade links between Antinoë with this region. As the two burials have been given dates from the mid-second century (shortly following the date when Antinoë was founded), and the third century respectively, it would suggest that those 'links' could be dated to the crucial period for the introduction of the compound weave textiles in Egypt.

Another point which is raised by these and other Antinoë finds is the concept that there was a large and wealthy population "*gréco-asiatique*" living in Antinoë, which may have contained to live there for as long as four hundred years. The idea is supported by a number of finds in addition to those mentioned above. For example, at least six eastern style riding cloaks, as well as trousers were found at Antinoë by Gayet [58]. These have been given sixth/seventh century dates by a number of scholars based on the appearance of the garments and the compound weave silk (twill weave) bands which had been used for the decorative edges of the garments [59].

It should be noted, however, that the above idea has been argued about by numerous scholars and as yet no satisfactory conclusions appear to have been reached [60]. But it would seem to be one which should be considered, especially in respect to the history and development of silk and wool compound weave textiles in Egypt.

Other more tenuous links between Egypt and the Mesopotomian/Syrian regions can also be indicated, for example, the invasion of Queen Zenobia of Palmyra in A.D. 271-2. The rule of this queen in Egypt lasted several years and it is reputed that she brought with her an army of approximately 70,000 men, in addition, no doubt, to her own personal retinue (Parker, 1958, 170). It is feasible that compound weave textiles were included amongst the baggage of the retinue, army, etc. Another possibility which has to be considered is that when Dura-Europos and Palmyra were sacked by the Sasanians, 'refugees' from these cities came to Egypt, and eventually settled in the 'Greek' city of Antinoë, and thus wool compound weave textiles came to Egypt and in particular Antinoë. Nevertheless, although these points remain possibilities, it should be

stressed that I have found no direct evidence to prove that these were essential links in the introduction of compound weaves into Egypt.

7.3.2. Distribution and Date of Wool Compound Weave Textiles from Various Egyptian and Nubian Excavations

In addition to the wool compound weave textiles from Antinoë a number of other wool examples have been found at various Egyptian sites (see Chapter 2). ^{Nevertheless} But all of these pieces appear to be of a later date. Curiously, these textiles employ a totally different range of designs to those found by Gayet at Antinoë, although they are similar to those found by de Johnson. It is possible, therefore, that the latter examples represent the Egyptian versions of this 'new' type of weave.

One of the earliest examples amongst these archaeological finds are the two fragments of a wool compound weave textile found at the Middle Egyptian site of Armant [61]. It has a repeating design of squares and rectangles in dark blue and natural. According to the excavators, D. Myers and H. W. Fairman, the fragments came from the main Graeco-Roman necropolis (Myers and Fairman, 1931, 224). The actual date of the burial, however, is in doubt because (a) few details were given about the cemetery and its contents and (b) the two graves where these textiles were found had been disturbed in antiquity (Myers and Fairman, 1931, 223). It would seem feasible, however, to suggest that they were late Roman or Byzantine in date, i.e. of a fourth century or slightly later date.

The next group of compound weave textiles are more securely dated. They come from the town of Karanis in the Fayoum. According to the various excavators of the site the settlement had been abandoned by the

mid-fifth century A.D [62]. Nevertheless, once more a number of problems exist in respect to the reliability of the published information concerning the site in general, and specific objects. The information provided in Tables 10-11, can be attached to their discovery.

The designs associated with this group of textiles vary quite considerably. Geometric forms are represented by several pieces, for example, Kelsey 13704 <151> included three fragments which had the remains of a squares and rectangle design woven in blue and natural wool. There is also a similar, but not identical, design to Kelsey 13705 in blue and natural wool separated by stripes in alternating rows of red and natural (Bolton 19.30.96 <31>). Slightly more complex designs are represented by several pieces, for example, Bolton 19.30.265 <32> has alternating rows of rosettes and double circles enclosed within a trellis work design; it was worked in blue and natural wool. Kelsey 12789 <149> has rows of squares in alternating blue and red wool with red wool warps. Kelsey 13959 <152> has traces of two connecting octagons with a large rosette set into the interstices. It was worked in red and natural yellow wool. Finally, Kelsey 94505 <153> has the remains of a hexagon (?) set within a pearl border with traces of two broad lines on either side of the border. The textile was woven in red and natural wool.

In addition to the above mentioned examples there are two other Karanis compound weave textiles which have somewhat indistinct designs. The first was worked in blue and natural wool and has traces of three bands in blue wool (Kelsey 13326 <150>). The second piece may have a design of birds within circles or octagons. It was worked in blue and natural wool (Bolton 19.30.55 <30>).

A similar fourth to mid-fifth century date range as regards the Karanis compound weave can also be attributed to several fragments of a wool compound weave textile which was found in two graves at the Nubian site of Qustul [63]. One group of these fragments was found in a Meroitic(?) tomb burial. If the Meroitic identification is correct then a third to fifth century date would seem to be reasonable (see Chapter 2).

Near Qustul there is another site called Gebel Adda where another weft-faced compound weave textile was found [64]. Unfortunately, the relevant site records for this textile were lost and apart from being able to state that the textile came from Tomb 75, Cemetery IV-8 (-B), no further information can be presented. As Gebel Adda was occupied from about A.D. 200 to the late eighteenth century, it means that this piece has to be labelled as archaeological undatable. Nevertheless, a fourth/fifth century A.D. date may be suggested on the basis of a comparison between the structure and appearance of this piece with other compound weave textiles, namely, from Karanis and Qasr Ibrim. It should be stressed, however, that there is no direct, archaeological evidence for this date.

The penultimate group of compound weave textiles in wool to be described in this section are the examples from Qasr Ibrim [65]. These form the largest group of wool compound weave textiles from any excavation in Egypt or Nubia. The range of designs associated with these compound weave textiles is also of interest, as the patterns vary from very simple forms with alternating blue and red squares (80T/23 <55>) to complex designs of stylised vine leaves (74T/221 <50>). There is also one textile which has a series of lions facing in various directions

(78T/300 <52>)). In general, however, the patterns associated with these textiles consist of a trellis-work outline enclosing a geometric pattern of some kind.

Once again however, there are a number of problems concerning dating sequences as several of the textiles were found in the spoil heaps from earlier work at the site. Nevertheless, the range of dates suggested for these pieces is of considerable interest, because one of the few compound weave textiles which can be dated with a degree of accuracy was also found at this site. The piece in question has been given a *terminus ante quem* date of the mid-seventh century because the name of *Allah* has been woven into a band (80T/23 <55>). This piece also belongs to a larger group of textiles from Qasr Ibrim [66]. All of these pieces are markedly different from the other wool compound weave textiles found at the site, and can be characterised by their wool type (Hairy, Hairy-Medium), spin (s-spun) and weave. Although in respect to the last point the decoration of the '*Allah*' textile is in a compound tabby weave, but the ground weave is a 2/2 twill. The fact, however, that the ground weave constitutes the dominant area of the cloth also makes it different from the 'normal' compound weave textiles found at this site. It could, however, be compared in style and construction with the compound weave example found at Shahr-i Qumis in Iran, although the ground in this case is woven in a tabby weave [67].

In addition to the '*Allah*' textile mentioned above, there are three other compound weave examples from Egypt which can be given Islamic dates. These *zilu* pieces were found in eleventh and twelfth to fourteenth century layers at Fustat and Quseir al-Qadim, respectively [58]. It would appear that the Fustat and Quseir al-Qadim compound weave

textiles belong to Iranian rather than Egyptian textile traditions (see Chapter 6). The point is strengthened by the fact that the *Allah* textile was woven with z-spun thread and using cotton with wool.

The above points would suggest that the *Allah* textile and the *zilu* fragments from Quseir al-Qadim and Fustat belong to a different textile tradition than the compound weave textiles from Egyptian and Nubian sites such as Karanis, Qau el-Kebir and Gebel Adda. It ~~ow~~^{ould} seem likely that this tradition was Iranian in inspiration, although it is not necessary that they actually came from Iran.

7.3.3. The Production of Compound Weave Textiles in Egypt

It has been suggested by the late Danish weaver J. Becker that a number of the compound weave textiles found in Egypt were woven in private houses: "Certainly these woollen fabrics [weft-faced compound tabby weave] were produced as homecraft and intended for some practical use in the household" (Becker, 1987, 89). From the information given previously in this chapter concerning the structure of the textile industry plus the distribution of wool compound weave cloth throughout Egypt and Nubia, I am of the view that it is unlikely that compound weave textiles were being made in either private, or indeed in temple workshops. Further, it would thus seem reasonable to suggest that they were being produced in either the state or commercial workshops. As I hope to show in another chapter, the production of silk compound weave textiles is known to have occurred in various Imperial Byzantine *gynaecaea*. There is, however, no evidence to suggest that the wool compound weave textiles found in Egypt, such as those from Karanis and Armant, were also made in state ateliers. The point is further

strengthened by the fact that many of the wool compound weave examples were found in domestic settings and humble graves, as opposed to the tombs of saints and church reliquaries where most of the compound weave silks were discovered. Thus it would seem likely that Egyptian wool compound weave textiles were the product of commercial workshops.

7.3.4. Where Were the Roman and Byzantine Egyptian Wool Compound Weave Textiles Made?

It is possible to use a wide range of sources when studying the problem of where the 'Egyptian' wool compound weave textiles may have been made. These include, for example, literary comments, papyri, modern comments and opinions, etc. In addition, relevant information can also be gained by examining the pieces themselves, and it is this aspect which will be discussed here. Before looking at this information, however, it is necessary to be aware of several points. Firstly, the quality and range of designs associated with these textiles are so varied that it would seem highly unlikely that they were the product of one weaver or workshop. Secondly, the compound weave finds from known sites should not be regarded in isolation. Instead, they represent goods which had been transported all over Egypt. As a result, therefore, the surviving pieces may only represent the 'tip of the iceberg' with respect to the number of wool compound weave textiles which were actually produced. The point is supported by the number of compound weave textiles in wool now in various museums throughout the world.

Thirdly, and perhaps of greater significance, it should be noted that the compound weave textiles from the various archaeological sites in Egypt, excluding the Fustat and Quseir al-Qadim examples which are

Medieval Islamic in date, represent a time span of at least four hundred years (from the proposed date of the Antinoë examples to the Qasr Ibrim *Allah* textile). So again it would seem highly unlikely that either one single workshop had been producing these textiles or even that they had been produced in one place.

It can be easily seen in the catalogue, the drawings, and various entries in Chapter 2, that the wool compound weave textiles found in Egypt vary quite considerably both in their appearance and structure. By looking at certain technical points, namely, spin and weave, it is possible to identify certain characteristics. In their turn, these may represent the means for identifying different 'workshops' or 'schools' of weaving. The range of designs associated with these textiles has not been chosen as a primary factor, because pattern can all too easily be influenced by economic demands and the whims of fashion, or the ideas of customers and weaver³. Spin and weave, however, appear to be more consistent and therefore more suitable for this purpose.

For example, in Table 15 information has been given concerning the spin and weave forms for the compound weave textiles from Karanis. By themselves the spin and weave information would suggest that the Karanis textiles came from three or four different workshops, depending on whether spin or weave is taken as the main criterion. If, however, both sets of information are incorporated, then it would suggest that seven different workshops were involved, but that Bolton 19.30.55 <30> and Kelsey 13959 <152> had been made at the same workshop. Curiously, the Bolton textile has an indistinct design of birds within connecting circles or octagons, while the Kelsey example has the remains of a connecting octagon design. It is possible, therefore, that these were

Table 15

Spin and weave forms associated with the wool compound weave textiles from Karanis.

Spin Forms:

(1) s/s	← (2) s/z	← (3) z/z	← (4) S, 2z/z
Kelsey 12798	Bolton 19.30.265	Bolton 19.30.55	Kelsey 94505
Kelsey 13326		Bolton 19.30.95	
		Kelsey 13959	

Weave Forms:

(1) 1a	(2) 1b →	(3) 2b →
Bolton 19.30.265	Kelsey 12798	Kelsey 13326
Bolton 19.30.55	Kelsey 13704	
Bolton 19.30.95		
Kelsey 13959		
Kelsey 94505		

from the same source, but at present this point must be regarded as 'unproven'.

In Tables 16 and 17 the approach described above has been extended to the other wool compound weave textiles found in Egypt (excluding the Medieval examples from Fustat and Quseir al-Qadim). It would appear from these tables that certain trends can be discerned, for example, the majority of the textiles have been made from s-spun yarn and woven in a compound tabby type 1a weave (11 examples). Next, however, come the z-spun yarns in compound tabby weave type 1a (9 examples), followed by s/s-spun, 2a compound tabby weave (4 examples), s/s-spun 2b compound tabby weave (3 examples), s/s-spun, 1b compound tabby weave (1 example) and finally S,2z/z-spun, 1a compound tabby weave (1 example). If the spin and weave results are combined then the results are as follows:

Spin	Weave	No. of examples
s/s	1a	11
z/z	1a	12
s/s	2a	4
s/s	2b	4
s/s	1b	3
S,2z/z	1a	2
s/z	1a	1

Table 16

Spin and weave forms of the wool compound weave textiles found in Egypt from the Roman/Byzantine periods based on the data provided in Table 15

	Spin				Weave		
	1	2	3	4	5	6	7
	s/s	s/z	z/z	S,2z/z	1a	1b	2b
Bolton 19.30.265	-	x	-	-	x	-	-
Kelsey 12798	x	-	-	-	-	x	-
Kelsey 13326	x	-	-	-	-	-	x
*Bolton 19.30.55	-	-	x	-	x	-	-
Bolton 19.30.95	x	-	-	-	-	x	-
Kelsey 13704	x	-	-	-	x	-	-
*Kelsey 13959	-	-	x	-	x	-	-
Kelsey 94505	-	-	-	x	x	-	-

It is also clear from the information given previously concerning the Qasr Ibrim 'Allah' textile that these form a distinct group, because the decorative band is in compound tabby weave while the ground weave is a type of 2/2 twill. This means that the z/z 1a section can be further sub-divided into two (Qasr Ibrim z/z 1a is made up of four examples).

From this information it would appear that the compound weave textiles from Egypt came from at least eight, possibly more, sources (z/z 1a being sub-divided into two).

These results, however, also create a problem in respect to the Antinoë textiles. The compound weave textiles found by Gayet are all z-spun, tabby type 1a textiles, but de Johnson also found three s/s-spun 1a compound weave pieces, plus one s/s-spun, 2a compound tabby weave textile. If they are all of the same date, does this mean that a second form of cloth was also being produced in Syria/Mesopotamia, the region proposed previously for the origin of the compound weave textiles found by Gayet? Or do the examples found by de Johnson represent slightly later Egyptian versions of the 'new' weave form? The latter idea could also be used to imply that compound weave cloth was also being produced in Antinoë.

Unfortunately, due to the lack of records concerning the de Johnson excavations it is now impossible even to say where these textiles came from at the site, let alone whether they were from the same region as the examples found by Gayet, or even whether they are of the same date. As a result, therefore, I feel one of two courses can be taken with the pieces found by de Johnson, either they can be ignored and regarded as 'unprovenanced', or their appearance and structure can be compared with compound weave textiles from other sites in Egypt, and thus given a later

Table 17

Spin and weave forms associated with Roman/Byzantine period compound weave textiles in wool from archaeological sites in Egypt

	1 s/s	2 s/z	3 z/z	4 S, 2z/z	5 1a	6 1b	7 2a	8 2b
Antinoë								
MG 1.116 <188>	-	-	x	-	x	-	-	-
MG 1.117 <191>	-	-	x	-	x	-	-	-
MG 1.118 <186>	-	-	x	-	x	-	-	-
Lyons 24/569/9 <190>	-	-	x	-	x	-	-	-
Br'lyn 15.447 <258>	x	-	-	-	x	-	-	-
Brussels 2494 <8>	x	-	-	-	-	-	x	-
VA T.167.1914 <80>	x	-	-	-	x	-	-	-
VA T.168.1914 <81>	x	-	-	-	x	-	-	-
Armant								
Bolton 62.31.3, 4 <33, 34>	x	-	-	-	x	-	-	-
Qau el-Kebir								
VA T.239.1923 <84>	x	-	-	-	-	x	-	-
Qasr Ibrim								
64T/132 <41>	-	-	x	-	x	-	-	-
72T/45 <42>	x	-	-	-	x	-	-	-
72T/182 <43>	x	-	-	-	-	-	-	x
74T/8 <44>	x	-	-	-	x	-	-	-
74T/15 <45>	x	-	-	-	x	-	-	-
74T/41 <46>	x	-	-	-	-	-	-	x
74T/42 <47>	x	-	-	-	x	-	-	-
74T/43 <48>	x	-	-	-	x	-	-	-
74T/221 <49>	x	-	-	-	-	-	-	x
74T/368 <50>	x	-	-	-	-	-	x	-
78T/300 <51>	x	-	-	-	-	-	x	-
78T/342 <52>	x	-	-	-	x	-	-	-
78T/475 <53>	-	-	-	x	x	-	-	-
80T/23 <54>	-	-	x	-	x	-	-	-
80T/103 <55>	-	-	x	-	x	-	-	-
80T/104 <56>	-	-	x	-	x	-	-	-
84T/28 <57>	-	-	x	-	x	-	-	-
Gebel Adda								
ROM T.75 <9>	x	-	-	-	-	-	x	-
Qustul								
Chicago 33/83 <165, 166>	x	-	-	-	x	-	-	-

date. Of the two courses the latter seems to be more acceptable, although perhaps not quite so objective.

It should also be recognised that there are a number of inherent 'dangers' or unknown factors which should be taken into account when interpreting the data given in Tables 15-17. It is feasible, for example, that a weaver acquired some spun wool from a 'new' source, perhaps due to the death of someone, and that the wool from this new source was z-spun as opposed to the normal s-spun form. Similarly, someone may have had wool spun at home and then have it taken to the 'local compound cloth weaver' in order to have the cloth woven for them. If this was the normal practice then it would seem reasonable to suggest that a variety of spin types could be found amongst one group of compound weave textiles.

The information provided above in Tables 16-17 also introduces the question as to the ^{location} place of these so-called workshops? The American textile historian L. Wilson was of the opinion that the compound weave textiles found at the Egyptian site of Karanis, must have been foreign in origin because (a) they were skillfully woven and showed no evidence of experimentation and (b) because so few examples of compound weave cloth have been found at the site [69]. Wilson, however, gave no indication as to whether she meant that they were simply not woven in Karanis, or whether she thought they came from another country. She seems to imply that the latter rather than the former was the case, i.e. that they were not Egyptian in manufacture. C. J. Lamm and R. J. Charleston were also of the opinion that the Karanis compound weave textiles were foreign, but only in the respect that they were not made at Karanis (Lamm and Charleston, 1939, 193, 199). It was suggested that some may have been made in Egypt (Lamm and Charleston, 1939, 199). In addition Lamm and

Charleston wrote: "But it must be recognised that it is not, in the actual state of our knowledge, possible to drawn [sic] a sharp line between *polymita* textiles made in Egypt and those imported from abroad" (Lamm and Charleston, 1939, 199).

A number of scholars have put forward the idea that Alexandria was the centre for the production of compound weave textiles in Egypt (both silk and wool forms) [70]. Various reasons have been suggested for this attribution, notably, that Alexandria had a long established textile industry; hence the comments made by Caracalla quoted at the beginning of this chapter. Another important factor was the wealth of Alexandria. It had been the capital of Egypt since the traditional foundation date of the city by Alexander on April 7th, 331 B.C., and it was both the financial and cultural centre of the land [71].

As noted above, it has been suggested by several modern authors that wool compound weave textiles of the type described in this thesis could have been made in Alexandria. One of the reasons given for this identification is based on the use of the Greek (Latin) term *πολυμίτος* (*polymitus*) by Pliny in respect to a type of cloth produced in Alexandria (Pliny, NH VIII.196):

"plurinius vero liciis texereguae
polymita vocant Alexandria instituit"

Another Latin author who is frequently quoted in this context is Martial (Marcus Valerius Martialis; ca. A.D. 40-104). He referred to the production of *polymita* in the terms of the *slay* (the reed on a loom) of Alexandria surpassing the needle of Babylon:

"Cubicularia Polymita
Haec tibi Mephitis tellus dat munera:

victa est pectine Niliaco iam Babylonos
acus" (Martial, XIV, 150)

The term *polymita* has been interpreted as meaning many coloured or many heddled, descriptions which would be appropriate to either the appearance of compound weave cloth or to the way in which it was made. Below, there is a list of some of the various translations or paraphrases given to *polymita*:

H. Stephani (1847)
Boisacq (1923)

multis liciis textus
hom. etc.m 'jeu de lisses' ou
cordelettes en forme d'anneaux,
dans lesquelles passaient les
ils de chaîne, auj. 'harnais'.
adj. (étoffe) dont le tissage
exige de doubles, de triples,
de nombreuses lisses.

Liddell, Scott and Jones (1968)

..... consisting of many
threads damask stuffs,
in which several threads were
taken for the woof in order to
weave in patterns.

Frisk (1970)

..... Bed. nicht sicher, etwa
'Kettenfaden, Kette' auch
'Faden im allg'. lat. *licium*.
Polymitus -a, -um, a. Woven
with threads of different
colours, damasked

Oxford Latin Dictionary
(1982)

Certain doubts have been raised about these interpretations, especially in respect to the one given above from the Oxford Latin Dictionary [72]. J. P. Wild, for example, put forward the suggestion that *polymita* meant "with tapestry-woven decoration in many colours" rather than meaning a mechanically woven textile (Wild, 1967, 152). Thus it could not be related to compound weave textiles. The Swedish textile historian V. Sylwan, however, had no doubts about the relationship between *polymitus* and weft-faced compound weaves, a conviction which she

repeated in 1949 when she wrote: "The Western compound weft rep is the late antique and Persian counterpart This pattern weave was called *Polymita*, many heddles, by the Greek and Roman people" (Sylwan, 1932, 59ff; 1949, 147). C. J. Lamm also followed Sylwan in this view, and he not only accepted that *polymita* represented weft-faced compound weave forms of cloth, but he also introduced the question of related Classical terms:

"The terms *trimita*, *hexamita* and *polymita*, used by Greek and Latin authors actually mean woven with three, six and many threads, but we may assume that the last-mentioned word is used as a designation of the heddles, or leashes. *Trimita* and *hexamita* may be regarded as special types of *polymita*" (Lamm, 1937, 11).

The term *polymita*, however, was not solely used by Pliny. When tracing the development of the use of the word *polymita* it becomes apparent that it had been in use long before the earliest known examples of weft-faced compound textiles are attested in Egypt, and at least two hundred years before the appearance of the earliest known examples of Chinese warp-faced compound weave textiles in the West [73]. So it would seem unlikely that the original meaning of the word *polymita* referred to weft-faced compound weave cloth. There is no reason, however, that the word could not have changed its meaning over a period of time and that it had become associated with this type of cloth [74]. It should be noted that there is no evidence to suggest, as done by A. C. Johnson and L. C. West, that the *velis ludivius* mentioned by Claudian (ca. A.D. 370-410), were *polymita* forms [75]. Or, as they further suggested, that Jewish weavers in Alexandria were producing this type of cloth (*ibid.*).

In conclusion, therefore, I would like to suggest that until more conclusive evidence of the relationship between the word *polymita* and the compound weave textiles can be found, I feel that such an attribution should remain a tentative, albeit interesting, idea.

It has been suggested by Lamm that a wool compound weave textile <245> now in the National Museum, Stockholm, may depict the fourth century Egyptian saint, Menas [76]. If this is the case then it may have been made in Alexandria. The pattern of this piece includes a very stylised orans figure surrounded by crosses of various types, flanking the figure. Near the lower half of the figure there is a horizontal line which transverses the cloth and two 'blobs' which may be animals (fig. 146, Lamm and Charleston, 1939, 198-199). Despite the fact that the figure is highly stylised it is still possible to see that he was depicted wearing a tunic with two waist high clavi ending in crosses, a broad neck band which joined the tops of the clavi together, and finally roundels on the shoulders. The presence of the crosses plus the orans pose would indicate that the figure was intended to represent a Christian saint or martyr. It was for these reasons that Lamm wrote, "One would be tempted to identify this figure with the famous Egyptian martyr, St. Menas, who is represented as flanked by beasts with camel heads" (Lamm and Charleston, 1937, 199). St. Menas is reputed to have died in ca. A.D. 300 (Farmer, 1979, 276) .

According to the various popular legends associated with this saint, Menas was the son of Eudoxius and a native of Nakios and governor of either a Roman province in Africa or, more specifically, Pentapolis [77]. He was executed during the reign of Diocletian because of his Christian beliefs. His death is reputed to have taken place at Cotyaea in Phrygia

(O'Leary, 1937, 194-196). Two camels were used to carry his remains back to Egypt and at a small building (or possibly a spring) about forty kilometres from Alexandria the camels suddenly refused to move any further, so the saint was buried at the spot. In due course a monastery was built called Mareotis or Maryût which became the centre for the Menas cult (Harris, 1971, 396).

Menas was variously regarded as the patron saints of merchants and caravans of the desert, and of camels [78]. According to Drescher, however, the saint was "essentially a 'popular' saint whose aid was sought in all kinds of difficulties" and whose power worked via the use of oil rather than water (Drescher, 1949, xxi).

The cult of St. Menas was popular during the late fourth and early fifth centuries (Anon, n.d., 500). It appears to have gradually declined in the sixth century, and by the end of the ninth century the monastic complex was deserted [79].

It should be noted, however, that there is one other Egyptian saint, namely St. Anthony, who was commonly depicted as being flanked by animals. Anthony became associated with a pair of lions after they helped him to bury St. Paul (the first hermit) in ca. A.D. 340 [80]. According to various legends, Anthony came across the dying Paul while he was walking in the desert. Anthony stayed with Paul until he died, but he found that he was not strong enough to bury him. Two lions then suddenly appeared and helped Anthony in his task. As a result of this sign of divine grace, Anthony is now depicted in Greek Orthodox and Coptic icons as being flanked by two lions (C. Walters, pers. comm.).

Despite the highly stylised nature of the figure in the Stockholm compound weave textile, several factors suggest that Lamm's

identification of the saint with Menas may have been correct. Firstly, Menas was the subject of a popular cult during the late fourth and early fifth centuries A.D. Secondly, his cult had an international fame which brought pilgrims to Mareotis from all over Egypt and the Eastern Mediterranean (Drescher, 1949, iv). Thirdly, many objects associated with his worship, i.e. pilgrim flasks, ivory cups, etc., have been discovered in areas as far away as England, W. Germany and Hungary [81]. All of these points suggest that there was a widespread Menas cult and a demand for suitable relics, both on a national and international scale.

On the other hand there appears to have been no corresponding cult of St. Anthony, although he is still venerated in a number of Coptic and Greek Orthodox monasteries to this day, for example, at the Monastery of St. Catherine in the Sinai (C. Walters, pers. comm.).

It is also worth noting that the place where the miracle of St. Menas took place and which became the centre for the Menas cult is about forty kilometres from Alexandria across desert track which was regarded as difficult, but by no means impassable [82]. Thus, while it is possible to suggest that some of the objects associated with the cult may have been made at the monastery itself, it is also feasible that some of the more elaborately produced objects may have come from Alexandria. The last point is further strengthened by the fact that excavations at the site of the Menas monastery have not revealed any evidence for either pottery kilns suitable for the production of the Menas pilgrim flasks, or for a weaving workshop suitable for the production of the textile needs of the monastery, i.e. clothing, let alone more elaborate forms of cloth [83].

In addition, there is a fifth century manuscript called *The Encomium* which relates how the Menas shrine was enlarged under the auspices of Timotheus Aelurus and that a rest-house was built for the multitudes who came to the monastery. The text goes on to state that "..... he had the market-place established among them in order that the multitudes might find and buy all their needs" (Drescher, 1949, 148). It would seem likely, therefore, that there was both a large consumer demand for items, presumably both essential and luxury goods, which was accommodated. It would be interesting to know the range of objects being sold and where they came from, especially in view of the fact that Alexandria was within a reasonable distance. It would also be interesting to know whether the monastery owned property in or near Alexandria where items for use in the monastery or for sale at the market could have been made, in particular the pilgrim flasks and textiles. Unfortunately, so far, I have been unable to find any satisfactory answers to these questions.

As a result of these various discussions it would seem reasonable to suggest that wool compound weave textiles may have been produced in Alexandria. It remains impossible, however, to gauge the scale of production as only one compound weave textile in wool can be tentatively identified with the city.

Another wool compound textile which is archaeological unprovenanced, but which may eventually be identified as being of Alexandrian origin is now in the Royal Ontario Museum, Toronto (ROM 968.323.1 <14>). But again it should be stressed that such an identification at present must be regarded as hypothetical. The textile in question has a design of circles enclosing a central rosette surrounded by a ring of trefoils which has been worked in red and blue (fig. 147). The main design has

been broken by the presence of a wide tapestry woven band which depicts figures and the remains of a tapestry square which has putti with imaginary animals and sea creatures. The feature which makes this piece unique amongst all of the wool compound weave textiles which I have seen is the presence of an ink inscription along one edge. The inscription is in Greek or Coptic letters and reads as follows: *ABB. KVR*. According to J. P. Wild this does not make sense as a Greek inscription (Wild, pers. comm). It does, however, make some sense if regarded as an abbreviated Coptic text [84]. The first word quoted can be read as a form of *apa* or "abbot, holy father", while the second word could be the abbreviation for the name of Kuros, Kyrillos/ (Cyril or Cyrus).

Interestingly, there was a famous patriarch of Alexandria during the first half of the fifth century A.D. whose name was Kyrillos or Cyril (412-444; O'Leary, 1937, 120-121). So it can be shown that the name existed at a time when it would seem likely that wool compound weave textiles were being produced in Alexandria. Whether, however, it could ever be shown that the ROM compound weave textile actually belonged to this person and that the phrase given above represents his mark, remains highly doubtful.

It would also seem unlikely that Alexandria was the only place in Egypt which was producing compound weave textiles, either in wool or in silk. Unfortunately, again there is no direct evidence which would indicate where else they may have been made. It would seem feasible to suggest, however, that they were made in reasonably large cities which could afford to support a textile industry which included the weavers of so-called luxury textiles as opposed to 'normal' domestic objects such as bedding and everyday clothing. It would seem likely that there were also

large private and public buildings, etc, in these places where the compound weave textiles could have been suitably used and displayed. In this respect attention should be paid to cities such as Karanis, Antinoë, Akhmim, where compound weave textiles have been found. These cities were important commercial and cultural centres as well as, in some cases, regional or nome capitals [85]. In addition papyrological evidence supports the idea that they all had weaving industries which were well established [86]. As a result, it would seem reasonable to suggest that these cities could have also supported the production of luxury textiles.

The position of the Nubian site of Qasr Ibrim, Qustul and Gebel Adda as potential centres for the production of compound weave textiles is much more difficult to assess. The largest of these sites was Qasr Ibrim, which was a fortress of considerable strategic importance during the Roman period. There is, however, no archaeological evidence to indicate that there was a productive agricultural hinterland which could have provided the necessary fibres and dyes needed to make these textiles (N. Adams, pers. comm.). In fact the evidence would suggest that most of the more luxurious goods were imported into the area from Egypt itself [87].

It would seem likely therefore that although a considerable number of compound weave textiles in wool have been found at Qasr Ibrim, these pieces represent the importation of luxury items over a considerable period of time [88]. The same conclusions can also be applied to the smaller and not so strategically or culturally important settlement of Gebel Adda or the cemetery of Qustul.

In conclusion therefore, I would like to suggest that some of the compound weave textiles found in Egypt were actually made in the places

where they were found, but that the Nubian examples represent imported goods, probably from Egypt.

7.3.5. Some Comments Concerning the Production of Compound Weave Textiles in Wool within Egypt

The subjects discussed in the following short section include the questions as to who may have made the compound weave textiles, under what form of market conditions and finally, what was the market position of wool compound weave textiles. These questions are difficult to answer in full due to a lack of detailed information concerning the role of weavers and the mechanisms of the cloth trade. It should also be stressed that I am not attempting to identify individual weavers, instead I hope to identify the type of weaver who may have produced the wool compound weave textiles found in Egypt.

If it is accepted that the production of wool compound weave cloth was a commercial activity then it raises various points concerning whether, for example, ^{the cloth} ~~the~~ was commissioned or bought 'off the peg'. By the latter, I refer to goods which could be easily bought from a market stall or from the weaver's workshop without the necessity of waiting for it to be made. Interestingly, evidence can be gleaned from a variety of sources, including the compound weave textiles themselves, that both systems may have been in operation.

It is known from a number of papyri that it was common during the late Roman and Byzantine periods in Egypt for people to take a specific weight of spun fibre to a weaver in order to have it woven into a garment or object. They also paid for both the yarn and for the spinning into "weaving-yarn" prior to it being taken to a weaver. The latter

situation, for example, is illustrated in a late third century report of the proceedings of the Senate, found at Oxyrynchus (P. Oxy. 1414):

"The prytanis said, "You examined the list of the temple and fixed a limit, and your resolution was submitted to the strategus, but (the priests?) made the excuse that those who undertook the work in question and their wives were unable to spin the yarn, (see) that on this point also you fix a limit, for there are only a few villages in your nome which have this material (the yarn merchants report that) and the price of weaving-yarn is 49 denarii and 11 denarii were paid to them from the Treasury's account"

The senators said, "Let the yarn-merchant be content with 19 denarii besides what was paid to them from the Treasury".

In this case, however, the spinners are trying to obtain more money because they claim that the amount paid by the State did not cover the actual cost of raw flax [89].

It is also possible that the commissioner paid for everything in advance or that the weaver was only paid on the completion and delivery of his work, but so far I have been unable to find any satisfactory evidence for such a procedure.

In respect, however, to the size of some of the compound weave textiles and the amount of raw material which must have been purchased in order to make them, it would seem unlikely that a single weaver could have afforded the necessary expenditure just in case someone might be willing to buy his wares. For example, a sample of wool compound weave in my own possession is 10.5 x 19 cm and weighs just over 25 g. allowing for the presence of dirt, sand, etc. [90]. Thus a complete example which was, for argument's sake, 200 x 150 cm in size would have needed wool weighing somewhere in the region of 3 kg. That would have been about 1 to 1½ fleeces of a medium quality [91]. A nearly complete compound weave in

the Washington Textile Museum is 239 x 129 cm in size, the exact weight of this piece is unknown, but using the same ratio as given above for my compound weave example it would mean that it may have weighed somewhere in the vicinity of 3.8 kilos: thus a minimum of 2 fleeces. If in addition to the price of the wool, the costs of preparing the wool, dyeing, spinning, weaver's costs, etc. are taken into consideration, then it would seem likely that the production of an item such as the example now in the Textile Museum would have incurred a considerable amount of outlay to carry out all these operations, as well as time. The fact that these costs were taken into account can be seen in the following letter which was written during the second century A.D. and sent from Apollonia to Philetus (P. Oxy. 2593):

"Apollonia to Philetus, greeting. I send my very best wishes to you and Heraclides, and I have dispatched to you by Onnophris the younger the materials for Heraclides' outfit: 7 minae of woof, weighing staters, that is 110 reeds; and warp from Lycopolis weighing 90 stater, that is 75 balls. The cost of this: for the warp, at 21 drachmae per 30 staters weight in all 63 dr; and the price of the wool for the woof, 36 dr. 30 staters weight has already been spun for one stater, and I gave 10 staters weight of wool of my own towards the cost of the preparation, 4 dr. I sent out three minae to be spun, at an obol per stater weight, in all 17 dr., 50b., and myself spun the other 4 minae and put into them a coloured black thread - put 3 minae of these into the cloak of the outfit. We send our very best wishes to you. Goodbye. the warp has been soaked here by me."

From the details given above, therefore, it would seem likely that in respect to the larger examples of wool compound weave textiles, at least some of the cost of making these objects may have been paid for in advance.

A different situation, however, is indicated in respect to other examples of wool compound weave cloth. There is some evidence to suggest that 'off-the-peg' compound weave textiles were being produced, i.e. compound weave textiles which were sold on the open market. These pieces may have come in two forms, firstly small objects, for example, cushion covers, which were sold in "cushion booths". The existence of such booths is indicated by a stone relief now in the Uffizi Gallery, Florence, which depicts the selling of cushions and belts [92].

Secondly, and perhaps of greater interest, there are two textiles in the Victoria and Albert Museum (VA 306.1891, VA 305.1891 <74> <73>; figs. 148, 149), which have been produced in the same manner and with the same design, but the colour of both the warp and the weft threads are different in the two examples. VA textile 306.1891 has been made with orange and natural wefts plus naturally coloured warps, while the second example has purple and brown wefts with brown warps. Consequently, it can be suggested that the textiles were produced by the same workshops, but, as is common practice to this day, different colourways were produced to suit the tastes of different customers. The use of warps in different colours excludes the idea that these pieces of cloth belong to different parts of the same textile.

It should also be added that these are not the only textiles which have the same design which was produced in different colours. There is a large fragment of a wool compound weave textile now in the Abegg Stiftung, Berne (AS 142 <142>; fig. 150), which has a hunting design of deer, felines and *chimera* worked in dark and light blue wool with undyed warp threads. A fragment with the same design has recently sold by the dealers Rodgers and Podmore <178>. In the latter case, however, the

textile was woven in blue and natural wool, and has a coarser appearance. One of the details which is particularly interesting about this second group of textiles is the size of the Abegg Stiftung *chimera* example. The complete textile has been reconstructed from several pieces to give a cloth about 3 metres by 2 metres in size. Based on the discussion given above about the weight of such items, it would suggest that it may have been a commissioned item. On the other hand the fact that the same design has been found in different colours would also suggest that it was being produced for a more open market. Various possibilities suggest themselves, for example, it is feasible that someone saw the Abegg Stiftung example and wanted a copy of it; that two pieces had been made in order to form a set; or indeed that there was a sufficiently wealthy weaver who was able to afford the production of such items in the hope that they could be sold at a later date.

The question also remains as to whether it is really possible to regard wool compound weave textiles as mere copies of silk examples, and thus presumably occupying a lower market value. As I hope to show in a later chapter, the wool compound weave textiles had a different function from the silk examples, and such a comparison is therefore fraught with problems (Chapter 8). It would be like comparing, for example, a modern silk crêpe for a dress with a printed chintz for chair coverings. It is simply not a satisfactory comparison. In addition, it is known, for example, that decorative wool compound weave textiles appear in Egypt as early as the third century A.D., while the earliest known datable west-faced compound weave silk example from the Western Roman Empire is fourth century A.D. in date [93]. Thus it would appear that wool compound weave

textiles were in use in the West before silk compound weave examples became popular. Which then is the copy?

Despite the fact that these problems raise some very interesting points, I feel it also has to be admitted that at present these questions can not be satisfactorily answered. They will have to wait until more details become available concerning the terms used to identify specific types of cloth during the Roman period.

7.4. The Akhmim Weave

One detail in the history of compound weave textiles in Egypt which I hoped to find, but did not really expect to, was that this type of cloth was still being produced. To my surprise I found that they are still being made, although nowadays they are made in cotton, rather than wool, or wool and cotton. Nevertheless, the weave used to produce the modern cotton textiles is still a weft-faced compound tabby (type 1a).

Only one place in Egypt appears to be still producing compound weave cloth, namely, Akhmim in Middle Egypt (Map 1). It is an isolated city about nine kilometres from the right bank of the Nile, nearly opposite Sohag, the capital of the province with the same name. The area around Akhmim has long been famous for both the production of cloth and for the sheer quantity of ancient textiles which have been found in both legal and illegal excavations in the region. The latter situation is reflected in the quotation by Wilber given in the introductory chapter.

It would seem likely that the production of weft-faced compound tabby weave textiles has been a continuous process in Akhmim since the late Roman period, but unfortunately apart from a number of compound weave textiles which are reputed to have been found here there is no

direct evidence to support this statement, for example in the form of city archives. Also, as yet, I have been unable to find any information which might suggest when the change from wool to cotton took place. According to André Azzam of the *Association Chrétienne de la Haute-Égypte*, Cairo, who helps to run a weaving workshop at Akhmim, compound weave textiles have always been produced in Akhmim. The statement, however, was later modified to within living memory, i.e. within the last hundred years [93]. Within the last few decades there were over 500 looms operating in the city, although now there are only two or three workshops which have between ten and twenty-five looms in all working on a full-time basis. Many of the other weavers from Akhmim now work at the spinning mills at Sohag, while only working on a part-time basis at their own looms.

The weaving workshop which Assam is partially responsible for originated in a community centre set up in 1960. It was founded with the aim of promoting self-help and mutual understanding between Muslim and Christian women in the city. In order to finance the centre the women established a weaving workshop using locally acquired "traditional looms" which had become redundant. When they first started to work the colours they used followed local and traditional colour combinations and indeed a number of the dyes used to produce the colours came from locally grown plants, for example, a purple colour was produced from a local plant. Unfortunately, however, Assam could not remember the name of the plant. It is possible, therefore, that these colour combinations were derived from and reflect the range of dyes and dye plants which were actually available in the immediate vicinity around Akhmim. Nowadays, however,

the dyes are all artificial and come from a chemical plant near Cairo [94].

The weaving methods which are used at the Centre and the designs which are produced are also based on traditional forms, although some of the modifications made to the designs, i.e. the present choice of colours, may reflect the current ideas of the Centre's members. Many of the designs produced have particular, traditional names, for example, "Scorpion" and "Biscuit", but sadly the origins of these names have now been lost (see figs 151, 152). One interesting point to note is that they have recently introduced a bird design which is very similar to the bird motif used on several of the wool compound weave textiles which were bought at Akhmim by the Rev. Chester during the 1890's (see fig. 71) [95]. According to Assam, however, this was a new pattern which one of the younger weavers had designed. It came as a surprise to him to discover that the design was not 'new' and indeed had a very long history.

During the last few years the Akhmim community centre has become a well-established folk art producer within Egypt and every two years they have a sale of their produce. The money is used to support the other activities of the group, notably literacy programmes and family advice groups. So not only are they 'building for the future' but they are also continuing a long standing tradition of producing compound weave textiles in Egypt.

In conclusion to this chapter on the history of compound weaving in Egypt I would like to suggest that the weaving of this type of cloth commenced in this country at some point during either the late second, or as would seem more likely, the early third century A.D. Knowledge of the

weave was derived from imported textiles, such as those from Antinoë, which originated in Roman Syria/Mesopotamia. The Egyptian forms were woven in wool and they were produced until at least the mid-seventh century A.D. There follows a gap in either their production, or as would seem more likely, in archaeological evidence until the eleventh century A.D. By this date it had become 'normal' for the compound weave textiles to be produced in wool and cotton. The last known wool compound weave textile from Egypt was produced at some point between the twelfth and fourteenth centuries A.D. Nevertheless, the production of compound weave textiles still continues to this day in the somewhat isolated city of Akhmim in Middle Egypt. These textiles, however, are made in cotton rather than wool.

Footnotes

- 1 The earliest known textile found in Egypt is a flax tabby weave fragment (s-spun) which comes from the Fayoum. It has been dated to about 5000 B.C. (Petrie Museum, London, UC 2943; Caton-Thompson and Gardiner, 1934, 46, sect. 67).
- 2 Vogt (1934), 198-206; Bender Jørgensen (1985), 85-100.
- 3 SHA Gallienus, 6; see also comments made by Persson (1923), 26-27.
- 4 See for example, comments made by Marzouk (1948-1948), 113-114; Bckwith (1957), 4; Tata (1987), 92.
- 5 For a discussion concerning Pharaonic payment in kind, see Janssen (1975), 455-493; also P. Tebt. 302 (A.D. 71-2), Evans (1961), 214.
- 6 Ed. Dioc. xxvi 10, 31, 69, 75, 96, 117, 138; xxvii. 5, 26; xxviii. 4, 13, 34, 43, 53, 56, 63. See also Jones (1960), 184.
- 7 A *lanificium* was a wool weaving workshop; a *textrinum* was virtually synonymous with a *gynaeseum*; while *linyfia* were flax weaving workshops (Jones, 1960, 184 ; Wild, 1967a, 649-650).
- 8 Marzouk (1948-49), 113-114; Gow (1950), vol. 1, 111; vol. 2, 265-7.
- 9 See for example, Lombard (1977), 219-224; Sarjeant (1972), 135-164. and the archives of a 9th century textile merchant in the Fayoum published by Ragib (1982, 1985).
- 10 See for example, Tata (1987), 51-53.
- 11 Orosius, *Historium adversum paganos*, VI, 19: 20-21. See also Persson (1923), 129.
- 12 Jones (1960), 433-444; Wild (1967a), 648-663.
- 13 Cod. Th., X, 20, 2; X, 20, 7; X, 20,9; X, 20, 6; Lactantius, *De Mort, Persecut*, 21, 4; Wild (1967a), 656-657.

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- 14 MacMullen (1958), 189; Wild (1967a), 655; also Jones (1960), 187.
- 15 MacMullen (1958), 189, 198; Wild (1967a), 655.
- 16 *Cod. Th.* X, 20, 2, 6, 7, 8, 9; Lactantius, *De Mort. Persecut.* 21, 4; Wild (1967a), 656.
- 17 Eusebius, *Vita Constantini*, II, 34; Wild (1967a), 656.
- 18 See for example, Bellinger and Kühnel (1952); Lombard (1977), 219-221; Sarjeant (1972), 7-15.
- 19 See for example, Evans (1961), 226-228; Tata (1987).
- 20 For a general description of the various rites where cloth was needed, plus the role of weavers in a temple, see Persson (1923), 8-11; David (1982), 132, 134-5, 137.
- 21 Herodotus, II, 82; Evans (1961), 230-231.
- 22 Evans (1961), 230-1.
- 23 P.S.A. 1149; P. Tebt. 298.
- 24 C. Walters, pers. comm; also comments by Winlock and Crum (1926), 70.
- 25 See for example, Chowstet (1911); Brewster (1927), 132-154; Wipszycka (1965); Wild (1969) and Tata (1987).
- 26 Persson (1923); Lewis (1985), 156-184; Bowman (1986), 56-88.
- 27 The use of the word 'guild' is perhaps misleading as these controlling bodies were not guilds in the medieval or modern sense, i.e. organisations which controlled the quality of goods being produced or the training of craftsmen.
- 28 BGU 1546 (A.D. 138; found at Philadelphia); Rostovtzeff (1922), 115; Wild (1967a), 655-662.
- 29 See also various comments made by Johnson (1936), 338.

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- 30 See for example, W.O. II.23,27 which refers to linen weavers. P. Oxy 1517 (A.D. 272 or 278) refers to carpet weavers, while P.S.I. 341 refers to the weavers of women's clothes.
- 31 P. Oxy. 3622 (A.D. 359) refers specifically to the Guild of Tarsian weavers, Tarsian weavers and Tarsian cloth; Wild (1969).
- 32 See Chapter 2. According to H. Granger Taylor there are several more compound weave textiles in the Musée de Tissue, Lyons which have still uncatalogued (pers. comm.). In addition, several French museums are reputed to have cases of objects from Antinoë which are still unopened. It is possible, therefore, that more compound weave textiles will eventually be identified.
- 33 See Chapter 2; also de Johnson (1914), 180.
- 34 The museums in question are The Victoria and Albert Museum (VA T.167.1914 <80>; T.168.1914 <81>); De Koninklijke Musea, Brussels (TX 2494 <8>) and The Brooklyn Museum (15.447 <258>).
- 35 Picard-Schmitter (1965), 317-318; King (1981), 95, n. 5.
- 36 Dimand (1925), 89; Wild (1967), 153. See also Crowfoot and Griffiths (1939), 46-47 (2nd-3rd c. A.D. date); Geijer (1979), 100 (3rd c. date); Becker (1987), 98-99 (no later than the 3rd c. A.D.).
- 37 King (1981), 95. See also footnote 35.
- 38 Curiously, Gayet also considered that another burial from Antinoë could have had a slightly later date than the so-called evidence provided by a pair of decorated slippers: "Voilà donc un premier point bien établi; supposons les chaussures fabriquées entre 150 et 200; la sépulture ne peut être considérée comme postérieure à 250; car Euphemiaân est morte jeune", Gayet (1901), 80.

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- 39 For the textiles from Quseir al-Qadim, see Eastwood (1984), 285-326; Eastwood (in pressa); information about Mons Claudianus is personal communication with J. P. Wild and H. Thompson, similarly with the textiles from Qasr Ibrim, E. Crowfoot (pers comm). See Yadin (1963), 169-279 for informatin concerning the Cave of Treasures textiles, and finally, Fujii *et al.* (1976), 120-201 for the At-Tar textiles.
- 40 See Chapter 3; also Pfister and Bellinger (1945), 3, S.4; Pfister (1940), 4-42, 544; (1950), 41, no. 99.
- 41 See Pfister (1948), 67. See also comments made by Picard-Schmitting (1965), 314-321.
- 42 See for example, Pope and Ackerman (1938), 681-691; Harper (1979), 120. See also Pfister (1948), 67 and Chapter 10.
- 43 See for example, comments made by C. M. Bier in Harper (1978), especially page 120.
- 44 Fujii (1980), 108-150, nos. 167, 173, 180.
- 45 Fujii (1980), nos. 179, 180, 183; Jospin and Vial (1983), 20-31.
- 46 Fujii (1980), s/s - no. 145; z/z - no. 106; s/z - no. 52.
- 47 Pfister (1948), 67. See Chapter 2.
- 48 Bouchier (1916), 161; Jones (1971), 265.
- 49 SeeJenson (1963), 104-118; MacGovern and Michel (1984), 67-70.
- 50 See Procopius *Anecdota* XXV, 14; Sperber (1976), 133-136; Sarjeant (1972), 114-119.
- 51 Février (1931); Raschke (1978), footnote 774.
- 52 Jones (1971), 217; Raschke (1978), 643, footnote 771.
- 53 Seyrig (1937), 4-31; see also Chapter 11.
- 54 Bouchier (1916), 140; Jones (1971), 220, 223, 265. See also Seyrig (1937), 4-31.

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- 55 See for example, Dupont-Summer (1948), 53-66.
- 56 It should be noted that this mummy is not the same as the one under which the compound weave textiles were found, see Chapter 2.
- 57 If Gayet is correct in his identification of the covers as being in silk, then these may be one of the earliest silk examples from Egypt. The relevant mummy is now in the Koninklijke Musea, Brussels, but there is no reference in Errera's catalogue to a silk textile from this burial (Errera, 1916). There is an entry, however, to a fine flax textile with a resist dyed design, which may have been mistaken for a silk object, (Errera, 1916, 16-17, no. 44).
- 58 von Falke (1921), 3; H. Granger-Taylor (pers. comm).
- 59 See Geijer (1979), 120-121; Pfister (1948), 59-67; Pfister (1932), II, 461; Beckwith (1957), 16-18; 21; King (1981), 102.
- 60 See for example, Pfister (1928), 228; Pfister (1929-30), 21; Kitzinger (1946), 47-48, 57; Geijer (1979), 120.
- 61 See Chapter 2, textile nos <33, 34>.
- 62 See Chapter 2, textile nos. <30-32; 149-153>.
- 63 See Chapter 2, textile nos. <165, 166>.
- 64 See Chapter 2; textile no. <9>.
- 65 See Chapter 2, textile nos. <41-58>.
- 66 Textile nos. <41, 55-57>.
- 67 See Chapter 3, textile no. <170>.
- 68 See Chapters 2 and 6, textile nos. <167, 184-185>.
- 69 Wilson (1933), 13. Eight compound weave textiles in wool are known to have come from this, Wilson, however, only published four of them (see Chapter 2).
- 70 Dimond (1925), 57; Wipszycka (1965), 112; King (1981), 98-99.

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- 71 See for example, Fraser (1972), 133, 138.
- 72 Walbank (1940), 93; Wild (1967), 152.
- 73 See Chapter 4 and 5; Wild (1967), 151-154.
- 74 See Chapter 6 for the use of the Arabic word *munaiyar* in connection with weft-faced compound weave textiles.
- 75 Claudian, *Eutrop.* 1, 357; Johnson and West (1949), 119.
- 76 National Museum, Stockholm, 16/1939 <245>; Lamm and Charleston (1939), 198-199.
- 77 For the reliability of the various Menas legends, see the introduction to Drescher (1945). Also Drescher (1941), 19-32.
- 78 Murray (1907), 27; Drescher (1946), XXI.
- 79 There was also a revival of the Menas cult in the fourteenth century (Anon, n.d., 324-343). For the archaeological evidence about the building stages see Kaufmann (1906; 1907; 1908; 1919 and 1924), also Grossman and Jaritz (1980).
- 80 O'Leary (1937), 222-223; Farmer (1979), 317.
- 81 Harden (1956), 149; Lengyel and Radan (1980), 96, fig. 60.
- 82 See Drescher (1941), 22-23; Ward-Perkin (1949), 26-29.
- 83 See footnote 79.
- 84 My thanks to G. van den Berg for her help on this point.
- 85 Compound weave textiles in wool were found at the following following Egyptian nome capitals: Antinoë; Armant and Akhmim (Gauthier, 1935, table 1).
- 86 For various discussions, plus lists of relevant papyri, concerning the Egyptian weaving industry during the Ptolemaic and Roman periods, see Calderini (1946), Wipszycka (1965). See also Biscottini (1966), 186-292.

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- 87 See for example, Adams (1977), 303-305, 353; Shinnie (1975).
- 88 See Chapter 2, also Tables 12 and 13.
- 89 See comments made by Johnson (1936), 642.
- 90 G. M. V-E <172>. This textile has the same design and structure as Norwich Castle Museum <120> and T.198.1976 <1117>.
- 91 These figures have been based on the fibre diameter measurements obtained from wool samples of a weft-faced compound weave textile in my collection <172>, plus the fact that most 'bred' types of British sheep with medium quality wool would produce a fleece which weighed between two and three kilos (Ryder, pers. comm; See also Anon, 1978; Wild, 1970, 8-10).
- 92 See Chapter 11; Zimmer (1982), 124-125.
- 93 The information about the modern production of compound weave textiles in Akhmim, and the Akhmim Community Centre has been supplied by André Azzam, *Association Chretienne de la Haute-Egypte*, Cairo. I would like to express my thanks to M. Azzam for his help.
- 94 One of the original trainee weavers called Sara married a dye chemist/engineer from the firm and this is one of the reasons why the Centre keeps its contacts with this particular dye works.
- 95 See for example, VA 304.1891 <72>; VA 242.1890 <71>. Also Chapter 11.

8. SOME COMMENTS ON THE RELATIONSHIP BETWEEN SILK AND WOOL COMPOUND WEAVE TEXTILES

8.1. Introduction

In the previous chapter emphasis was placed on the production of wool compound weave textiles in Egypt. It is now necessary to discuss the relationship between silk and wool forms found in Egypt and elsewhere in the Roman Empire (both eastern and western). The emphasis in this chapter, however, is placed on the early production of silks, i.e. prior to the eighth century. The final date has been chosen for two reasons, firstly, it represents the period when considerable changes took place in Egypt and the Eastern Mediterranean due to the Islamic movement westwards in the previous century. Secondly, I have so far been unable to find any evidence to support the idea that compound weave textiles in wool, as opposed to those in wool and cotton, were still being produced in the Near East after this date. It lies beyond the scope of this thesis to give a history of the silk industry in the Near East. Nevertheless, within the context of this study some general remarks are needed in respect to its early development [1].

The traditional date when silk weaving commenced in the West is generally attributed to ca. A.D. 522. According to a story given by Procopius of Caesarea, in his work *Gallio Bella* (written ca. A.D. 550), two monks came to the court of the Emperor Justinian (527-565) and offered to go to China in order to obtain silkworm eggs and thus to break the so-called Persian hold over the Emperor with respect to silk goods (Procopius, VIII, xvii, 1-7). The Emperor gave his consent to their mission and in due course the eggs were brought back to the Byzantine

court. Thus the monks "made possible from that time forth the production of silk in the land of the Romans" (Procopius, VIII, xvii, 7).

The story, however, does not take into account that silk textiles were known and in use at a much earlier date in the West, as noted by such authors as Pliny and Lucan, and that it would seem that Western weavers may have been unravelling Chinese silk textiles and then reweaving the silk into lighter weight cloth at a fairly early date [2]. Thus the date given above should be regarded as the date when the Western silk industry was founded using locally produced silk yarn, rather than the date when silk weaving in the West first began.

One point which is uncertain, however, is the exact appearance and structure of these early compound weave silks. A number of silks have been attributed to the imperial Byzantine workshops, for example, a large compound weave cloth with lions now in the Cologne Cathedral Museum, but in fact very few of them included inscriptions which would substantiate such an attribution [3]. Further to this, the earliest extant and dated product of the Imperial Byzantine workshops is far too late to help formulate an early history of the weaving of silk compound weave textiles. The textile in question comes from the St. Anno († 1075) shrine, St. Servatius, Siegburg (Muthesius, 1984, 237). According to the English textile historian A. Muthesius, this piece has the following inscription: *Επι 'Ρωμανου και Χριστοφολου των φιλοχριστιων δεσποτων*, which she has translated as meaning: "During the reign of Romanos and Christophoros the devout rulers" (Muthesius, 1984, 238). She has identified the emperors in question as being Christophoros the son of Romanos I, Lekapenos, who became co-emperor in 921 and who died in 931

(Muthesius, 1984, 238). This would thus give the textile a date somewhere between 921-931 (Muthesius, 1984, 238).

In addition to problems relating to the dating of silk textiles, it would appear that the products of the Imperial workshops at Constantinople were subjected to very close scrutiny. It would appear, for example, that an attempt was made to restrict the use of silk cloth to the Emperor, his family, and the imperial court in general, although on very rare occasions silks were given as gifts to those deemed worthy by the Emperor [4]. So once again their value to an overall history of compound weaves remains difficult to assess.

Nevertheless, much of the 'everyday' silk cloth woven throughout the Byzantine period seems to have been made by people outside of Constantinople and the court system. It would appear that such cloth was being made in public workshops governed by various guilds, private *gynaecea* or by commercial weavers [5]. This view is supported by a comment made by Procopius, namely: "Garments of silk were made in Beirut and Tyre, cities in Phoenicia, from long ago. The merchants handling them, the workers and the technicians lived there of old, and from there this commodity was traded to the whole world" [6]. It is known that Syria did not have a monopoly on the production of silk textiles, but such comments do reflect the importance of Syrian silks [7]. For example, Egypt had a thriving silk industry which, in general, was based around Alexandria and other Delta cities, such as Damietta, Tarrana and Tinnis [8].

In addition, there was a well developed silk industry by, at the very latest, the sixth century in Greater Iran, and it is likely that such centres were capable of producing the silk textiles used by the

Iranian court. This type of cloth is known, so it would seem, from the Sasanian reliefs depicted at Taq-i-Bustan, as well as from the garments which were also sent east and west as trade goods [9]. It is interesting to note that a rivalry appears to have developed between the Western and Iranian silk industries. This situation is sometimes explained by modern writers by the fact that the Sasanians were supposed to have held a monopoly for several centuries on the importation of silk from China, and thus they controlled the amount and price of the silks sold to the West [10]. A theory which has been disproved by various scholars, most notably M. G. Raschke [11].

Following the spread of Islam during the seventh century and the conquest of Syria, Egypt, Sicily and Spain, these countries either received a boost to their indigenous silk weaving industries or new silk weaving industries were founded, as in the case of the last two countries mentioned above [12]. It is not surprising, therefore, that Islamic silks were to become available on Northern European markets and that they were beginning to be an important feature of European church treasuries [13].

In respect to the development of compound weave textiles it should also be noted that many of the silk textiles produced during the seventh to twelfth century, from either the Western or Eastern workshops, were woven in a compound weave. According to Muthesius, however, the role of the compound twill weave was ousted during the eleventh century by lampas weave (Muthesius, 1984, 236). For a time it would appear that the two types of cloth were produced concurrently, but the compound weave form gradually died out and the lampas form continued [14]. Unfortunately, however, Muthesius gave no reason as to why this change took place.

8.2. Wool Versus Silk Compound Weave Textiles

It is frequently suggested that wool compound weave textiles were merely copies of silk examples [15]. D. King, for example, wrote in connection with the hunting designs to be found on various silk compound weave textiles that:

"These resemblances suggest that the designs of many of the early wool, or wool and linen textiles may be simplified and coarsened versions of designs which were originally devised for silk weaving" (King, 1981, 102).

Yet, as I hope to show in this chapter, the relationship between the silk and wool compound weave textiles is not as simple as King implied. Similarly, comments such as that made by Beckwith as regards the small collection of wool compound weave textiles from the site of Karanis: "a rather shoddy group of patterned weaves" tend to be unnecessarily disparaging (Beckwith, 1957, 3). They may not be so iconographically inspiring to a modern art historian, but were they originally meant to be regarded as an 'high art form' and treated as such?

The lack of satisfactory dating evidence surrounding the silk examples 'found' in Egypt, make it far more fruitful to use the wool textiles as the 'norm' rather than the other way round when looking for dating sequences, whether looking at the weave or iconography of this type of cloth.

One of the basic problems surrounding the silk compound weave textiles found in Egypt is that so far none appear to have come from recent excavations. The vast majority of 'Egyptian' silk compound weave textiles which are now in museums throughout the world came from three or

four 'excavations' which took place during the late nineteenth century. Particular reference should be made to the French excavations at Antinoë by A. Gayet; the German work at Akhmim led by R. Forrer; and the Austrian expeditions to Sakkara by T. de Graf [16]. It was indicated in Chapters 1 and 2 that there are numerous problems involved with these particular 'excavations' and textiles; all the more so with the silk compound weave examples. Nevertheless, as these excavators were working within the limitations of their period the comment made by J. Beckwith in respect to the Antinoë textiles may be regarded as somewhat harsh: "..... and the excavations at Antinoë were reported by Gayet in a spirit of late 19th-century romanticism serving the more to distort his observations, which was both imprecise and insufficient" (Beckwith, 1957, 1).

The two most famous groups of compound twill weave textiles in silk from Egypt are pieces which allegedly come from Antinoë and Akhmim. According to Beckwith the silk compound weave textiles from Antinoë could be divided into two basic types, firstly, those pieces which had small fantastic patterns, such as masks, peacock feathers etc, and secondly, those with larger fantastic patterns. All of these pieces were woven in various colour combinations such as orange, rust green and brown, and all were weft-faced compound twill weave forms with single binder/main warps (Beckwith, 1974, 345).

In addition to the two groups mentioned above, Beckwith also identified a third group which he classed as the "Antinoë rinceaus" textiles. These pieces were woven in two colours (red and buff) and had all-over lozenge designs formed from either continuous scrolls or separate foliage devices. The scrolls enclosed flowers, foliate forms, diamonds, squares, etc. They were woven in a compound twill with single

binder warp threads (Beckwith, 1957, 21). According to Beckwith these pieces can be dated to a period after the Arabic conquest of Egypt in A.D. 639.

The problems created by these textiles can be seen in the variety of opinions which have been expressed concerning their iconographical origin. Pfister, for example, thought that they were Iranian, as did Geijer [17]. On the other hand P. Ackerman denied a Sasanian origin for nearly all of the Antinoë silks, as she thought that they had been made in Egypt, but under Persian or Byzantine influence, a view which was also held by Kitzinger [18]. Beckwith commented that the first two groups mentioned above were not of Sasanian origin and that he regarded them as *tissus byzantines*, and further that there was a serious possibility of them being either from an Egyptian or Syrian workshop (Beckwith, 1974, 347). As a result of these conflicting views concerning this group of so-called Antinoë silk compound weave textiles, it would seem reasonable to describe the textiles as intriguing, but, as yet, of unknown origin.

One of the most famous groups of silk compound twill weave textiles from Egypt are attributed to the Middle Egyptian city of Akhmim. The textiles are characterised by the presence in Greek or Coptic of the names of Zacharias or Joseph above a variety of scenes; one of the most common is that of horsemen. Two of these textiles were published by the German scholar and archaeologist R. Forrer. According to his account they were found during his excavations at the Roman and Byzantine cemeteries at Akhmim, unfortunately he gave very little other information (Forrer, 1891b, 9). One of the textiles had the beginnings of the word *ROHO*.... woven into it and was given a fourth century date by Forrer [19]. The second silk has a similar woven inscription, but with the word

...αχαριος (Forrer, 1891b, pl. VII, 1). This piece was given a late fourth, fifth century date (*ibid.*). According to Forrer the latter inscription could be interpreted as *MAXAPIOY* or Makharios and that it may be associated with either the Elder Makharios who lived in the desert for 60 and who died in A.D. 391, or with Makharios Alexandrinus who died in 404 (Forrer, 1891b, 15, fn. 1).

Forrer's Makharios theory, however, is no longer generally accepted. Most modern scholars seem to hold the view that the missing letter is an 'X' or 'Z' and that the name was intended to be read as Xachariou or Zachariou [20]. According to Beckwith this type of pattern should be dated to the late seventh or eighth century A.D., because another textile in this group has a Kufic inscription bearing the name of *Allah* [21]. Beckwith felt that these pieces were probably of Syrian or Egyptian origin, a view which appears to be generally accepted [22]

In addition to the Antinoë and Akhmim groups of compound weave textiles in silk, various modern scholars have referred to another group called the 'Alexandrian' silks. Some of the most famous textiles in this group are now in the *Sancta Sanctorum* and depict scenes of the Annunciation and Nativity [23]. These textiles, however, have been 'provenanced' using stylistic arguments rather than on the basis of information concerning the place where they were found or where they were actually made. So, although they form a very interesting group of silk compound twill textiles, it does not seem necessary to discuss them further in this thesis.

The vast majority of the silk compound weave textiles which Beckwith summarised and which have been described above, are all compound twill weave forms which are reputed to been found in Egypt. Most of these

pieces have also been given post mid-seventh century dates. In addition to these pieces, however, there are a number of other relevant textiles which should be considered. As will be noted, several of these pieces come from West European sites and are of a slightly earlier date than that usually given to the "Antinoë" and "Akhmim" textiles.

The earliest, archaeologically excavated, silk compound weave textile to be found within the confines of the Roman Empire appears to be a silk piece which was found at the Hungarian site of Szöny (Roman Brigetio) [24]. The first occupation of the area immediately around Szöny appears to have been in the first century A.D. In about A.D. 101 Roman soldiers (from the XI Claudia Legion) built a fort there which was later known as Celamantia [25]. Gradually a town developed around the fort, which was partially occupied by the families of the soldiers. It would appear that during the first and second centuries A.D. the fort was primarily manned by soldiers of Italian or West Pannonian origin. During, however, the late second to the end of the third century A.D. many of the merchants and citizens of the city appear to have been Syrian in origin and it was during this period that Brigetio became an important economic centre protected by the fort (Mócsy, 1974, 230-240). By the late third century, however, the town had started to decline and by the fifth century A.D. the fortress had been abandoned and allowed to fall into ruins.

A series of second and third century sarcophagi have been excavated at Szöny and a number of textiles were found [26]. According to a report about these textiles by the Hungarian writer L. Hajnal, they included flax, wool and silk examples in a variety of weaves [27]. The silk textile which is of particular interest came from Grave One and was

described by Hajnal as having a pattern in a "zig-zag streak weaving" (Hajnal, 1965, 260). Wild described the weave as a 3/1 twill (Wild, 1970, 52). According, however, to the Danish textile historian L. Bender Jørgensen it is a weft-faced compound tabby weave textile (Bender Jørgensen, 1987, 6; pers. comm.). The condition of this piece, however, is so bad that the design could not be identified.

The presence of Syrian merchants and soldiers at Brigetio leads to the suggestion that they may have been responsible for the introduction into the Danube valley of this example of a silk compound weave, and that it may have come from Syria or the Eastern Mediterranean at some point during either the third or early fourth century A.D. (see for example, Wild, 1970, 52). The suggestion would seem reasonable, but as will be noted below it is just possible that the textiles may have been of European rather than Eastern Mediterranean origin.

The next datable example of a silk compound weave textile from the Western Empire was found in the grave of a young woman of about 20 years old at Marseille. The burial was one of three sarcophagi recently excavated by the *l'Institut d'Archéologie Méditerranéenne*, Marseille (*Centre National de la Recherche Scientifique*) at the Abbey of St. Victor, Marseille [28]. The burial in question has been dated to the second half of the fifth century A.D. on the basis of the appearance of the biblical scenes which had been carved on the sides of the sarcophagus (Boyer, 1977, 25).

According to the textile report which has been prepared by G. Vial, the clothes found in the burial consisted of a *maphorium* or veil which went over the hair; a long tunic placed over the body, but not fitted to it, and a *palla* or mantle which was used as a shroud (Boyer, 1977, 25-

27). The piece which is of particular interest is the tunic which was made out of a weft-faced compound tabby weave and included two series of decorations, firstly, a number of woven stripes which have floats on the back, and secondly, a "herring-bone" or soumak decoration which went down from the shoulders [29]. According to the account given by Boyer the tunic was remarkably fine and has a thread count of 70 warps and 140 to 160 wefts per centimetre (Boyer, 1977, 27). No reference is made as to the spin of the silk threads. The condition of the cloth was such that no suggestions concerning the presence, or otherwise, of a design could be given, although the use of this type of weave would suggest that at least two colours had been applied (Boyer, 1977, 27).

According to Boyer the technique used to weave the cloth was known in the Near East during the fifth and sixth centuries A.D. and it is known from various finds from Antinoé which have been attributed to Byzantine, Syrian or Sasanian workshops (Boyer, 1977, 27). These dates would be acceptable in connection with the late fifth century date given to the burial in respect to the sarcophagus reliefs noted above.

In addition to the silk compound weave textiles mentioned above from the Western areas of the Roman Empire, there is also a somewhat later piece which was recorded during excavations at 'Avdat (Eboda) in Israel (fig. 153, Map 6). The textile was found during the 1958-1960 excavations at the site by A. Negev, The Hebrew University, Jerusalem [30]. It has been given a late sixth, mid-seventh century A.D. date (*ibid.*) The date has been based on the *terminus ante quem* date of 'Avdat, A.D. 636, and the fact that it was found in a room with a large pithos on which was a Greek *dipinto*, or painting, with names. According to the excavators some of the names may be related to various people who

are known to have lived at 'Avdat during the late sixth century A.D. (*ibid.*, see also fn. 3).

According to A. Baginski and A. Tidhar the textile was made out of golden yellow and red silk, the warp is z-spun while the weft has virtually no spin. Finally, it was woven in a "compound twill with two layers of weft" (*ibid.*, 113, 114). The design was made up of alternating cartouches with a "stylized kylix containing a bud topped by a trefoil and two scrolls" and a kylix with circle containing a highly stylised rosette (*ibid.*, 113-114). Along one edge there is a band of minute red trefoils on a yellow ground. The design and structure of the 'Avdat textile was compared favourably by Baginski and Tidhar with silk finds from Akhmim which came from the Gayet excavations [31]. As a result of this comparison Baginski and Tidhar suggested that the 'Avdat textile may have been imported from Egypt and that the date of the 'Avdat example could be used to date the Akhmim silks (*ibid.*, 115)

In addition to the example from 'Avdat, there are also two other examples of silk compound weave textiles from Near Eastern excavations. The first example comes from the Syrian site of Pella, while the second is from the Sudanese site of Soba (Map 6). It should be noted, however, that the second example is only a tentative identification as the fragment is very small and in a fragile condition. Both of these textiles have been given an eighth century A.D. date.

The Pella silk compound weave example was recently found with eight silk textiles in Burial 830016, Area 14, level 2, by an excavation team from The University of Sydney [32]. According to the label attached to the box in which the textiles were stored, this burial contained two victims of an earthquake which occurred in A.D. 747/748. Two small

fragments of the compound weave cloth have survived, and both are in a poor, carbonised state. They were made out of s-spun silk had been woven into a compound twill weave material. As the largest surviving fragment is only 3.2 x 2.2 cm in size, no further details about the nature of the weave could be deduced. In addition, the size and state of the cloth offered no clues concerning either the original colour or design of this piece.

No indication has been found concerning the place where exactly these Pella examples may have come from, but judging from the scale and importance of the Syrian textile industry it is possible that they could be regarded as local or relatively local products. It should be stressed, however, that there is no firm evidence for this hypothesis.

The silk 'compound' weave textile from Soba is even smaller than that from Pella and due to its size I was unable even to ascertain that it is actually a compound weave form [33]. The fragment (no. 22) was found in the crypt of a church which was excavated in 1982-1983 by D. Welsby, Dept. of Archaeology, Newcastle University. The crypt was destroyed by fire sometime during the eighth century A.D. (D. Welsby, pers. comm.). The maximum size of the fragment is only one centimetre, but it would appear that it had been made using a compound twill weave form. Nevertheless, due to its size, no further information can be presented.

In addition to the pieces which have come from known sites described above, there are also a group of compound weave textiles in silk which come from treasuries and tombs of saints in European churches [34].

One of the best documented figures in the early history of the Christian Church is St. Ambrose who was Bishop of Milan from A.D. 374

until his death in 397 [35]. His close relationship with various emperors, notably Theodosius I (379-395), is recorded in a variety of sources including his own *Letters* [36]. When he died in 397 he was buried in the *Basilica Martyrum* in Milan which was then rededicated to St. Ambrose. According to H. Granger Taylor the textiles found in the tomb of St. Ambrose were made up of two groups: firstly, a number of Late Antique (fourth-fifth centuries A.D.) textiles which may have belonged to the saint himself, secondly, a group of 11th century textiles. The Late Antique textiles have been reconstructed by Granger Taylor into two tunics or *dalmatica*. The piece which is of particular interest for this study is a weft-faced compound tabby (S.8) which came from the second *dalmatica* (fig. 154). The textile is in dark red or purple silk and has a simple geometric design of connecting circles and squares. It had been used to make the applied crosses which lay on the sleeves of the garment. Granger Taylor has dated this textile to the fourth century A.D. based on the date of Ambrose's death and a comparison of this piece with other compound weave and damask textiles which have geometric designs, for example, the Paulinus silks which are referred to below (Granger Taylor, 1983, 144).

In ca. A.D. 358 St. Paulinus died in Phrygia and his body was brought back to Trier, where it was reburied in 395. Various textiles were found in the tomb when it was reopened at the end of the nineteenth century [37]. The textile which is of particular interest is a silk compound tabby weave in dark purple (?) and natural (?) (warps are z-spun, with a 40-50 per cm count, while the wefts are unspun, ca. 40 picks per cm.). The pattern consists of circles and crosses (fig. 155).

In respect to the origin of this piece, Wild felt that the fact that Paulinus had died in Phrygia and was then brought to Trier still made it possible to state that: "There is no evidence that compound cloth was woven within the western provinces" (Wild, 1970, 53). Thus, he favoured a Syrian origin for the St. Paulinus compound weave silk (*ibid.*). Wild's view, however, was later modified by two points, firstly that one of the silk damasks found in the tomb had an embroidered maker's mark [FL]ORENTIA OF[FICINA], "The Florentian Workshop" which would suggest a European origin for this piece, and secondly, a recently discovered part of the Edict of Diocletian (A.D. 301), from Aezani, Turkey, gives a list of the type of looms available for sale throughout the Roman world [38].

One of the items on the list is a "loom for weaving pure silk damask cloth, together with all its wooden weaving apparatus" (Crawford and Reynolds, 1977, 147). There is no reason, therefore, why a Roman could not have bought a loom, yarn and weaver (or hired one), in order to produce damask cloth anywhere throughout the Roman world. If this argument is continued, then it would also seem reasonable to suggest that if it was possible to produce silk damask cloth, then there is no reason why compound weave textiles could not also have been made, again anywhere throughout the Empire. In fact the type of loom needed to produce both type of cloths may have been very similar if not identical.

A very similar view concerning the origins of the Trier silk damasks, but for different reasons, was expressed by the Belgian textile historian D. De Jonghe (De Jonghe and Tavernier, 1978, 28). He felt that this example of a compound weave textile, plus other silk textiles such as a silk damask which were also found in the tomb, could have been made in Trier itself. According to De Jonghe it is possible that the Imperial

gynaeceum at Trier was also a silk weaving centre which provided cloth for the Imperial court and gifts for highly placed individuals, hence the presence of damask silk textiles at Conthey in Switzerland and silks at Holborough in England [39]. As yet, however, no archaeological evidence has been found which supports this idea, but it remains a possibility.

Another North European church which has provided a considerable number of Byzantine and Islamic silk compound weave textiles is the Saint Servaas († 384) Church at Maastricht, The Netherlands [40]. During a recent examination of the silk textiles in the treasury of the church A. Muthesius was able to record over 400 textiles. Most of these pieces can apparently be dated from the pre-eighth century A.D. [sic] to the fourteenth century [41]. In addition, it is known that the relics of the saint were translated following his canonisation in 1164 and, according to Muthesius, it would seem reasonable to suggest that the tomb had been completed in that year (Muthesius, 1984, 248, fn. 36). Amongst this group she identified the following weaves: compound tabby, compound twills, damasks and lampas weaves (Muthesius, 1974, 326). She gives a number of the compound weave textiles a seventh to eighth century date (Muthesius, 1974, 325).

As noted above there are considerable problems with regards to the date of the silk compound weave textiles, found in various saints' tombs. One of these problems is due to the saints being translated at various times and new textiles being added to their graves. All of the above mentioned burials have been reopened at various times. As a result, therefore, while it is possible to give a *terminus post quem* date for the deposition of these pieces based on the date when the saint died, it is not always certain that this is the date of the compound weave textile.

A good example of this problem can be seen in respect to the tomb of St. Julian, Rimini. According to the Italian art historian G. Gerola the tomb had been opened on numerous occasions between the early fourth century and the mid-seventeenth century (Gerola, 1911, 115). These dates have been based on a series of coins which were found inside the coffin (*ibid.*, 115). In addition, the textiles appear to belong to various periods, for example, one textile with a square and roundel design has been given a sixth century date on the basis of comparisons with textile designs found in the Ravenna mosaic, while another textile which has a lion motif is now regarded to be, at the earliest, eighth century in date [42]. So while it would seem likely that the silk textiles found in this tomb are of a fifth, possibly sixth century A.D. date this cannot be satisfactorily proven.

One point which should be noted about all of the textiles which have been described above, is that all the silk compound weave textiles from Europe and from the tombs of Ambrose and Paulinus (I am not certain of the exact nature of the Julian and Servaas silks), were compound tabby weave forms and that they appear to have been made between the fourth and fifth centuries A.D. Secondly, all the other textiles, i.e. those from Antinoë, Akhmim, 'Advat, Pella, etc., are weft-faced compound twill weave forms and these pieces can be dated from the sixth to the eighth centuries and possibly slightly later. It would appear therefore that the tabby weave form was the earliest type and that for some reason it was superseded by twill weave forms sometime during the fourth or fifth centuries A.D.

If the last two date ranges actually reflect the true dates when silk compound weave textiles (both tabby and twill forms) were being

produced in the East, then it would mean that the silk examples were somewhat later in date than the wool examples. For example, the wool compound weave textiles from Antinoë have been given at the earliest a first or second century A.D. date, and more reasonably a third century A.D. date.

On the other hand the loom reference in the *Edict of Diocletian* mentioned previously and the fact that the earliest compound weave silks appear to have come from the late third or early fourth century burial at Brigettio, would suggest that the production of silk and wool compound weave textiles were concurrent. Nevertheless, it is curious that the majority of the other silks have been dated to the fifth (Marseille), sixth (Antinoë and 'Avdat), and eighth centuries A.D. (Pella). Of course, the survival of the silk compound weave textiles probably represents fortuitous accidents, but it does make clear that statements such as those quoted initially in this chapter by King concerning 'the fact' that wool examples tend to be mere copies of silk compound weave textiles, should be regarded with a degree of caution.

It would seem reasonable to suggest in respect to the dates and the so-called 'artistic' value of both the wool and silk compound weave textiles that the wool examples were the earliest, but that they were shortly followed by the silk forms. The two types of textiles appear to have satisfied different demands, and as I hope to show in a later chapter, different functions. It would also seem likely that the two types of cloth were made in the same environs, although judging from the clear distinction which has already been made between, for example, flax and wool weavers, it would seem highly unlikely that a weaver who produced a wool compound weave textile would also produce a silk form.

The last statement also introduces the question as to where the silk compound weave textiles discussed above were actually made. The same range of potential sources as noted for the wool compound weave textiles in the previous chapter, namely, Egypt, Syria and the Sasanian lands are usually put forward for the silk examples. Once again, while there is considerable circumstantial evidence to support these claims there is little actual proof. For example, the presence of Syrian merchants and soldiers etc., at Briget^o, would suggest that they may have brought some Syrian silks with them, thus giving the compound weave silk found there a possibly Syrian origin. On the other hand, Menas flasks have also been found in Hungary, so if ^{one} typically Egyptian product could be found there, why not another? (Lengyel and Radan, 1980, 200, pl. cxlviii). A third possibility which has to be considered is that they may have been the product of a North European silk industry.

Until some firm evidence can be obtained concerning the proper Greek or Latin word for compound weave textiles (both silk and wool forms) and more accurately recorded archaeological examples are presented, then questions about the place and time when wool and silk compound weave textiles were actually made must remain as 'guesstimates' of varying degrees of value. If, however, the assumption is correct that compound weave textiles in wool from the West predate comparable silk examples, this may form another indication that the hypothesis given in Chapter 3 may be correct, namely that the origin of compound weave textiles in wool should be sought in Eastern Turkestan rather than in the Near East.

Footnotes

- 1 For a general introduction to this subject see: Beckwith (1974); Lombard (1977); Geijer (1979), 127-136, 141-146; King (1981); Muthesius (1984).
- 2 Pliny, *N.H.* VI.17.20; Lucan, X.141-143; Procopius, *Anecdota*, XXV,73; Hirth (1885). See also Chapter 4.
- 3 Muthesius (1984), and in particular pages 241-245 for the Cologne lion silk.
- 4 Lopez (1945), 1-8, 25-28; Simon (1975), 23-46.
- 5 Lopez (1945), 8-16; Muthesius (1984), 236-237. See also Simon (1975), 23-46.
- 6 Procopius, *Anecdota*, XXV, 14. See also comments by Wild (1984), 22.
- 7 For various early written accounts concerning Syrian silk industry see Sarjeant (1972), 114-119. See also footnote 6.
- 8 See for example, Sarjeant (1972), 134-162.
- 9 Pope and Ackerman (1938), 691-715; Harper (1978), 119-125; Geijer (1979), 117-124. See also Chapter 6.
- 10 Thorley (1969), 209; Loewe (1971), 123. See also footnote 2.
- 11 Raschke (1978), 637-650; See Chapter 3.
- 12 See footnote 2. Also May (1957); Sarjeant (1972), 191-192.
- 13 Beckwith (1974); Muthesius (1974; 1984)
- 14 Muthesius (1984), 236. More details concerning this point are in A. Muthesius's Ph.D. thesis entitled "Eastern Silks in Western Shrines and Treasuries Before 1200" (Courtauld Institute of Art, London University, 1980).

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- 15 A notable exception to the hypothesis that wool textiles are copies of silk examples can be seen in a suggestion by R. Pfister, where he describes a number of silk textiles from Antinoë as being copies of wool tapestries (Pfister, 1934, 82). See also Kitzinger's totally opposite comments concerning the same pieces (Kitzinger, 1946, 11-14).
- 16 See for example, Forrer (1891a; 1891b); Kendrick (1921), 3-5, 9, 12; Pfister (1948), 46-75
- 17 See Beckwith (1974); King (1981).
- 18 Pfister (1948), 46-75; Geijer (1979), 120.
- 19 See for example, Kitzinger (1946), 58.
- 20 Forrer (1891b), 15, pl. V, i. It should be noted that the textile in this plate appears to have been reversed so that the inscription reads backwards, but in fact it is the left hand side of the material, compare for example the ΖΑΧΑΡΙΟΥ textile illustrated in Volbach (1966), no. 45.
- 21 The textile is now in the Kunstgewerbemuseum, Düsseldorf (12088). A second example is now in the Victoria and Albert Museum, but as yet the Kufic inscription has not been satisfactorily interpreted (VA 768-1893 and 2150-1900; Kendrick, 1922, pl. XXIV).
- 22 Beckwith (1974), 348; see also another silk in this series with a Kufic inscription now in the Victoria and Albert Museum, no. 2150.1900 (Kendrick, 1922, 78, no. 806).
- 23 See for example, Volbach (1969), 99; Beckwith (1974), 348; Muthesius, pers. comm.

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- 24 The *Sancta Sanctorum* is the Vatican's collection of religious objects, etc. See Volbach (1942), pls. XXIX-XXXI; also Bunt (1967), fig. 22; Volbach (1966), fig. 51.
- 25 See for example, Mócsy (1974), 321; Hajnal (1965), 259-266.
- 26 See also Mócsy (1974), 120-131; 230-240; Póczy (1964), 176; Barkocz (1965), 251.
- 27 Mócsy (1974), 321; Hajnal (1965), 259-266.
- 28 Hajnal (1965), 259-266; Bender Jørgensen (1987), 6.
- 29 Details concerning the Marseille burial were taken from Boyer (1977), 25-30. So far I have been unable to find any other information about the textiles from this site.
- 30 Boyer (1977), 27, fig. 3. The use of soumak or twining 'decoration' on tunics probably acted as a strengthener for the neck area. It is a device commonly found on Coptic tunics in wool from Egypt. See for example, Granger-Taylor (1982), 16, fig. 18.
- 31 The details concerning the 'Avdat find were taken from Baginski and Tidhar (1978), 113-115. So far, no further details about this site or tomb appear to have been published.
- 32 See for example, Kendrick (1922), 75-76, nos. 794 and 796.
- 33 The details about the Pella find are based on talks with T. Potts and on an, as yet, unpublished textile report by myself which was written in 1983.
- 34 The Soba textiles are now housed in the Dept. of Archaeology, Newcastle University. My report about these textiles should be published in the summer of 1988.
- 35 See footnote 15. Wild also refers to a textile impression found at Tournai (La citadelle) which was possibly of a compound weave

textile from a fourth century burial of a Germanic *foederatus* (Wild, 1970), 119. The textile was described as "Une étoffe dont le décor était constitué de têtes de clous formant probablement un motif géométrique", but no evidence was given as regards its original fibre type, so while this piece should be mentioned, it does not really belong within the main text (Amand and Eykens-Dierickx, 1960, 80, tomb D).

- 36 For a description and history of St. Ambrose's tomb and its textiles, see d'Arzago (1941); Granger-Taylor (1983), 127-128.
- 37 See for example, ed. Wytzes (1950).
- 38 The account of the St. Paulinus textiles has been based on Braun (1910), col. 347-350; De Jonghe and Tavernier (1977/78). See also Wild (1970b), 12, 118-119.
- 39 Crawford and Reynolds (1977), 147-148; Wild (1984), 22. See also De Jonghe and Tavernier (1977/78). Becker is totally against the idea of a Trier production centre for silk textiles (Becker, 1987, 217).
- 40 Vogt (1934), 198-206; Wild (1970), 117-118; De Jonghe and Tavernier, (1978), 24-25, 28-29.
- 41 For a description of some of these textiles see Muthesius (1974). Other examples from St. Servaas' tomb are included in Muthesius's thesis
- 42 Muthesius (1974), 325; see also Muthesius (1984), 247-248.
- 43 Gerola (1911), figs, 6-8; Muthesius (1984), 247-248, fn. 35.

9. EVIDENCE FOR THE TYPE OF LOOM OR LOOMS USED TO PRODUCE COMPOUND WEAVE TEXTILES

9.1. Introduction:

The following chapter is intended to cover a variety of questions concerning the way in which compound weave textiles were woven. In order to do so, the chapter has been divided into three sections; firstly extracts from a series of private and unpublished correspondence between the late English textile historian G. M. Crowfoot and a then student at Oxford University, R. J. Charleston, who was interested in the history of Roman textiles [1]. In these letters both Crowfoot and Charleston outlined their opinions concerning the origins of compound weave textiles, and the form of loom which may have been used to make them. A number of salient points were made and these will be discussed in detail following the extracts. These points include, for example, the question whether the 'drawloom' used to produce compound weave textiles in China was the same type of loom as used in the Near Eastern to weave comparable textile.

Secondly, there will be a discussion concerning the range of technical information which can be extracted from the compound weave textiles in silk and wool and subsequently used for the defining of the type of loom used (9.3.). The information relates both to the method in which the textiles were made, and on what form of loom. Thirdly and finally, there will be a description and discussion about "traditional" types of looms currently being used in Akkmin, Egypt and at various places in Iran, to produce compound weave textiles in cotton (9.4.).

9.2.1. The Charleston-Crowfoot Correspondence

Between 1939 and 1950 a series of letters were written ^{by} between the textile historian Grace Crowfoot and an ex-student of Classics, Oxford University, Richard J. Charleston. Many of these letters were written during the Second World War, while Charleston was serving in the armed forces in India and Ceylon. During his period in India, Charleston became very interested in the silks excavated by Sir Aurel Stein at the Central Asian site of Lou-lan which were housed in the Imperial Museum, New Delhi (later renamed the National Museum of India). Permission was granted by the then director of the museum, (Sir) Mortimer Wheeler, for Charleston to examine in detail many of the Stein textiles. The examinations were carried out with the hope of incorporating the information into a thesis on Roman textiles. Unfortunately, although Charleston worked for several years on this project, he was unable to finish the work (Charleston, pers. comm.).

The following extracts were chosen because they include references to both Charleston's and Crowfoot's views on the type of loom which may have been used to produce various compound weave textiles found in China, Eastern Turkestan and the Near East. The first extract comes from a letter which was sent by Charleston to Grace Crowfoot. It was dated 3rd, November 1945 and was sent from Ceylon:

"Secondly, the term "draw-loom", I don't by that necessarily mean anything very complicated like a Jacquard, but I suppose basically any system which by the attachment of leashes (possibly primitive in the extreme) achieves the raising of selected pattern threads without interference with the rest of the warp, and thus makes over the function of the shed-rod. This seems to me the natural line of development. Any complicated heddle-system of pattern-weaving to my mind necessarily works from point-paper on the principle of noting the behaviour of each warp-thread and putting all those of similar behaviour into one heddle. I can't see a jump from

what is in effect tapestry-weaving (even if aided by two heddles for the basic weave) to that. And I think Flanagan has made the point for the draw-loom in his article in the Burlington Magazine on the scale-harness in the weaving of the purple silks - but at just what date?" [2]

Grace Crowfoot replied to these comments in a letter sent from Beccles, Suffolk, dated January 12th, 1946:

"Now for the drawloom. I take it that it probably originated in China and the history of its evolution is to be found in China, in the literature, or in survivals in out of the way places, where perhaps some of its precursors may still exist

I accept the view of good authorities that the early silks show that the drawloom was already in use in China as early as the Han period. Nor have I any objection to the reasonable view that good weavers, Syrian or Egyptians seeing Chinese (or other) patterned silks would want to imitate them - perhaps at first, as Pfister [3] suggests, on their own looms - and then later, possibly on a more evolved type. Where I differ from American and other writers is that where I find a weave easy to compass on the simpler types of loom I am unwilling to posit the draw loom as they so light heartedly do, e.g. Lillian Wilson at Karanis etc [4]. You, like other moderns, and Flanagan, and Lee of Birkenhead, find drawlooms so obvious [5]. Lee said to me once: "Why do you fuss so about the drawloom? Sticks and string.. a man might think of it at any moment". Quite so. But did he? The queerest thing in the history of the evolution of the drawloom is that it wasn't till the 18th cent. that French brains (after years of conscious experiment) finally got a type, Jacqart [sic], which could be worked by one weaver. Before, what a great contraption, with human drawboy to help get the pattern. Worth it for fine silk pattern work etc, the trouble of setting up, and the wages of man and boy but for a simple bit of work, would it be cheaper than the easy set up and more hand labour in the weaving? Of course it is not incredible that some primitive device for raising special threads (other than the pattern stick) should have been devised it is a bit odd that it shouldn't have survived but that may have happened"

"Anyhow there's someone in America who feels a little bit like me. In the Dura Report Louise Bellinger now regards the compound silk found at Dura (No. 263) (formerly thought to be Chinese warp pattern) as weft pattern [6]. Her reason is that "it would be almost impossible first to set up so many warps so close together and to beat the weft up evenly between them" If a weft pattern she says: "It is a simple process" The funny thing is (though she doesn't say so) is that if a weft pattern, the weave is identical

with the Twofaced [sic] piece that Mrs Griffith and I dissected!" [7]

In reply to these comments Charleston wrote from Ceylon on the 22nd, April 1946:

"I am sure I know what you mean about draw-loom and it is just your approach that I sympathise with. If that is not being a "modern" then I am not a modern. But I think the principle of a draw-loom is simple, even if the mechanism is complicated: what you do in effect is to have a special apparatus apart from the ordinary weave-building mechanism, in order to meet the exigencies of that fundamentally un-textile thing - a pattern borrowed from the world outside (whether from mosaics or what-have-you) But conjuring drawn patterns to go into heddle is a sort of alchemy far more difficult to understand than [sic] that of the draw-loom. It is a sort of trick, which always works out, but you rather wonder how".

"Anyway, I rather wonder whether a stick-and-string draw-loom with a two or three heddle binding system is more complicated than, for example, an eight-heddle loom with its complement of pedals and levers and pulleys. And small-boy labour can never have been much of an item in the East, where it all began. I think the draw-loom was a separate invention in the Far East and in the Near East, although it has crossed my mind whether possibly Justinian's Nestorians didn't absorb some weaving-technique, as well as a knowledge of rearing silkworms and reeling the filament?" [8]

A number of the points raised in the above extracts are still being discussed by various scholars and, as yet, they have not been satisfactorily resolved. The points which Crowfoot and Charleston refer to which would seem to be of particular interest in respect to this chapter are:

(A) Did the Western compound weave actually originate in China and if so what sort of loom did the Chinese use? Have any of these looms survived?

(B) What form of loom was used in the Near East for the production of compound weave textiles? Did this type of loom originate in China or was there a separate development? Is it possible that the origin of the Near

Eastern loom for the production of compound weave textiles is to be sought in India or in neighbouring regions which are more remote?

(C) "Modernists" versus "stick and string": How did the proposed Near Eastern loom compare with later Chinese and European forms of the drawloom?

Several of the points highlighted above have already been discussed in previous chapters, for example, as regards the question whether the compound weave originated in China or not (see Chapters 4 and 5), and whether the Dura example was of Chinese or Western origin (see Chapter 4). The other points raised above will now be discussed in greater detail.

Before doing so, however, it is necessary to give some indication of the differences between 'simple' and more 'complex' loom forms, such as the drawloom. In particular, a description needs to be given of the feature which differentiates the drawloom from other loom forms, namely the way in which the warp threads are manipulated during the weaving process. In order to understand these differences, it is necessary to give an idea of how the 'shedding' operation of a loom works and to identify which elements 'make' a drawloom.

9.2.2. The patterning device of a drawloom

The basic act of weaving has already been described in the introductory chapters of this thesis. Suffice it to say here that weaving involves the passing of a thread (the weft thread or pick), under and over the warp threads (ends), which are usually placed at right angles to the weft threads (see fig. 2). In order to achieve an even structure it is necessary to work with the warp threads under tension. The stretching

or tensioning of the threads is achieved by securing the warp in some manner at both ends. The different methods of securing the warp will be discussed later.

It is possible to introduce the weft thread into the warp by hand, for example by using a needle or a stick around which the thread intended to be the weft has been wound [9]. The weft thread is then 'woven' under and over the individual warp threads. Such a system is time consuming, and at a very early date a device, probably just a stick, appears to have been added to the loom in order to separate the warp into 'upper' and 'lower' threads (fig. 156).

The separation of the warp threads in this manner, produces the shed, and it is an essential element in the weaving process. The simplest form of shedding involves two operations:

(a) the warp threads are divided into even numbered threads which lie above the stick or rod, while the uneven numbers lie below. The threads above represent the natural shed (fig. 157).

(b) in order to obtain the other shed (countershed), the even warp threads have to be lowered (fig. 158).

A heddle arrangement of this type will produce the simplest binding system, namely the tabby weave, whereby the weft threads go over one warp thread, under one, over one, etc. The order represents the weft thread being thrown through each of the two sheds (1, 2; see fig. 2). In order to produce a more complex binding system, i.e. a twill weave or a compound weave, the order in which the warp ends are arranged has to be altered.

The simplest method of elaborating on the basic binding system is to add shed rods. In some cases, however, once a rod has been used it must

be removed so that the next rod in the pre-arranged sequence can be raised [10]. Such a system means that either a large quantity of rods have to be inserted prior to weaving or that once a group or block of rods have been 'used' then they have to be re-inserted, thus prolonging the weaving process. By the addition of loops to the rods, through which certain of the warp picks are passed, it is not necessary to remove the sticks as the passage of the warp threads behind the first stick is not hampered (fig. 159). Rods with some form of looping system are described as heddle or pattern rods, depending on whether they are used to produce a particular weave, i.e. a twill weave, or whether they are used to create a figured pattern within the cloth (Burnham, 1980, 71, 97). The rods can be either lifted by hand or, as with more complex forms of looms, lifted with the help of a mechanical device of some form.

Various mechanical devices can be used in the drawloom to lift the warp threads. According to a description given by the Canadian textile historian D. Burnham in her book *Warp and Weft*, a drawloom is a handloom used for figured textiles which has a special type of figure harness to control some or all of the warp ends (Burnham, 1980, 48). In addition, it is capable of controlling each warp end separately (*ibid.*). The cords which control the figure harness allow the automatic repeat of a pattern across the width of the textile; a pattern in the length of the textile is produced by repeatedly pulling the leashes in the same order (*ibid.*, 49). The Swedish textile historian A. Geijer gives further details to this basic description: "An essential feature of the drawloom figure harness system is the special 'leashes' fitted with 'lingoes' or weights, which make it possible for them [the individual warp ends] to be raised and lowered independently of the main shafts. The leashes to be raised

and lowered simultaneously are joined at the top to necking cords and pulley cords, one for each pattern shed to be opened" [11].

Based on these two descriptions it could be argued that a drawloom must have a figure harness system which includes weights or 'lingoes'. The official CIETA definition of a drawloom, however, does not include the lingoes in its description [12]. It does, however, define a 'lingo' as being: "The weight on the lower end of the leash in a drawloom" (CIETA, 1964, 30). The word "leash" is also used for part of the pattern mechanism of a drawloom, in combination with mails, necking cards, and comber boards (CIETA, 1964, 29).

All of these terms are associated with the Jacquard form of drawloom [13]. So perhaps it can be suggested that the terminology used above reflects CIETA's origins in the French silk industry, which for over two centuries has been using various forms of the Jacquard loom which was in operation by 1804 [14]. As the term 'drawloom' has these connotations, it would seem advisable to avoid this name when discussing late Roman and early Islamic examples of compound weave textiles, especially those in wool.

9.2.3 The Looms of China

Following on from the above descriptions of the basic mechanical details of 'simple' and drawloom, it is now necessary to return to several points raised earlier. The relevant points are: what evidence is there for the type of looms used in China and the Near East during the relevant periods? What evidence does a study of the structure of the compound weave textiles provide for suggesting the type of loom which may have been used to make the pieces? Finally, are there any surviving

looms which can be used as comparative material for the type of loom which may have been used to produce the provenanced compound weave textiles included in the main catalogue?

It has been suggested by various modern authors that the type of loom used for the production of warp-faced compound weave textiles from the Han period in China, resembled the drawlooms depicted in various seventeenth century, and later, Chinese illustrations (fig. 160) [15]. Yet it would appear that there is no evidence to suggest that during the two Han Dynasties the Chinese had actually used this form of loom. Based on archaeological and contemporary representations of looms, it is possible to show that at least two specific types of looms were used. The first form is the body or foot-braced loom which has been identified from surviving parts of the loom, and a small bronze model [16]. The second type is a treadle loom, which has been identified from contemporary Han representations in comparison with more detailed illustrations from the early eighteenth century onwards [17].

Various wooden objects, some with bronze ends, were found in a Bronze Age (ca. 206 B.C. - A.D. 8) tomb at the site of Yunnan, in Southwest China (Tomb 17, fig. 8) [18]. The wooden 'objects' were described by the excavators as being: "four parts of *dao* (knife)-shaped bronze utensils found in one case" [19]. In a nearby tomb (Tomb 1), a bronze container for cowrie shells was found which had small figures of weavers at work on the lid [20]. Several of the 'sticks' associated with the looms were of a similar shape to the wooden 'objects' found in Tomb 14. As a result of this similarity, a Canadian specialist on Asian textiles, J. Vollmer, has identified the objects from Tomb 14 as being: a

cloth beam with pronged ends, a warp beam with thickened ends, a sword beater and a tubular shed stick with a bow shaped bar [21].

According to Vollmer, the pieces from Yunnan represent the earliest evidence of an East Asian loom (Vollmer, 1977a, 78). The foot-braced loom was capable of producing tabby weaves, fancy twill weaves and weft-figured cloth using pick-up pattern techniques (Vollmer, 1977a, 81-82). Vollmer, however, did not mention this form of loom in connection with the production of warp-faced compound weave textiles. Indeed, it would seem highly unlikely that this type of loom was used for this form of cloth, as there was no mechanical (as opposed to direct, human introduction of the pattern) device associated with this form of loom which could have created a pattern in a complex warp-faced weave.

Another form of loom which is known to have been used during the Han period is the treadle loom. Depictions of this loom have been found on a number of Han brick reliefs from various sources (fig. 161) [21]. So far, however, it would appear that no parts of this type of loom have survived. Nevertheless, based on the reliefs various authors have made suggestions concerning the way in which they may have been operated. Sylwan, and later Geijer, for example, have compared a representation of a loom found in the family tomb of Wu in the Shan-tung Province (mid-second century A.D.), with a form of back-tensioned loom used in the eighteenth century for the weaving of cotton (figs. 162 and 163) [22].

There is, however, in the various published illustrations of the Han period loom no indication of the bar and tension lines which are normally associated with body-tension looms, which stretch from the back of the loom to the weaver, thus producing a very characteristic void shape, a detail which is clearly depicted in the later engravings.

Further, the Han depictions clearly show such details as the position of the weaver's feet, a point which Sylwan describes as indicating the artist's familiarity with the type of loom being drawn (Sylwan, 1949, 166). So if the artist did intend to represent this type of loom, why did he miss out the details of the bar and tension lines? It would also seem unlikely that the weaver would have been able to turn in the manner suggested in the Han relief in Figure 161, if she was using a body-tensioned loom which was tied to her waist. Perhaps therefore the artist was trying to depict another form of loom.

In an article by Becker and Wagner on Han monochrome patterned silks, the two authors have identified various elements of a loom which they regard as being depicted on the Han brick reliefs (see figs. 164 a, b; Becker and Wagner, 1981, 22). These elements include the following items: a solid frame, two beams, a slanting warp with a shed stick, a heddle shaft, and two treadles; there is no evidence to suggest that there was a reed [23]. The Becker and Wagner 'Han loom', however, appears to have been only capable of producing plain, rather than figured cloth. According to Becker and Wagner one explanation of this limitation lies in the fact that the loom only used one heddle with a shed stick, and that there was not enough space between the weaver, heddle and back of the warp for even a simple patterning device, for example, pattern rods (Becker and Wagner, 1981, 22).

The late, Chinese textile historian, Nia Xia, has suggested that it would be feasible to produce complex forms of weave, namely warp-faced compound weaves, on this "Han" form of loom, but that it would be necessary to make various modifications to the loom's construction (Xia, 1972, 20-24). Becker and Wagner took this idea further by suggesting

that these modifications would involve extending the horizontal warp in order to accommodate the pattern rods, plus having two heddle shafts with treadles (Becker and Wagner, 1981, 22). When considering the sophistication of various extant monochrome patterned and compound weave textiles which appear to have been produced as early as the fourth century B.C., it would seem to suggest that if Xia's suggestion is followed, there existed the necessary ability to produce such modifications [24]. It can also be shown that during the first millennium A.D. various changes and adaptations took place in the repertoire of Chinese weavers, for example, the introduction of compound twill weaves at some point during the sixth/seventh century A.D [25]. It can be suggested that these additions to the weaver's repertoire may indicate that changes, or perhaps modifications, took place in the manner in which the looms were operated.

In support of Xia's idea that the Han loom was probably used to produce compound weave textiles rather than a drawloom, Burnham and subsequently Becker and Wagner, have discussed various technical aspects of the Han textiles found in Eastern Turkestan which they felt pointed to the use of a simpler form of loom [26]. The arguments raised by these writers are centred around the concept that it is possible to weave complex warp-faced compound weave textiles on relatively simple loom forms. Burnham, for example, wrote that the setting up of a full draw system would have involved the individual control of somewhere in the region of 5,000 or more ends, when the pattern repeat may have only needed between ten or forty leashes which could have been accommodated using "special shafts or heddle rods" (Burnham, 1965, 31). According to Becker and Wagner in their article on Han monochrome pattern

weaves, the two writers have actually woven compound weave textiles on a simpler form of loom, namely a modern hand-loom with two shafts and two treadles (Becker and Wagner, 1981, 220). As a result of these experiments they felt justified in saying that:

"The argument for the use of a drawloom in the Han is postulated, often repeated but never seriously argued, that the Han figured weaves could not have been woven without it. Our practical experiments show that this postulate is incorrect: we have been able to weave all of the Han weaves with much simpler equipment (Becker and Wagner, 1981, 22)

It can be suggested from the information given above that there is no evidence to indicate that 'true' drawlooms were used in the production of Han warp-faced compound weave textiles. It would seem reasonable, therefore, to suggest that a number of parallels which have been drawn between a hypothetical Han drawloom and the post-seventeenth century illustrations of Chinese drawlooms should be regarded with a degree of suspicion [27]. It would also seem more feasible to suggest that a modified form of the 'Han' treadle looms depicted on various brick reliefs could have been the loom type which was used to produce Han compound weave textiles.

One point, however, which should be raised when presenting this hypothesis is the question as to when the drawloom was developed in China. A clue to this question may lie in two Sang (A.D. 960-1277) period depictions of Chinese looms with draw harnesses which are referred to by Becker (Becker, 1987, 261). Both looms have what appears to be two shafts and a drawharness. Becker, however, suggests that the earliest depiction of a true Chinese drawloom is in Song Ying Xing's *Tian gong Kaiwu* (The Products of Nature and Man), which was published in 1637

(Becker, 1978, 262). Nevertheless, an earlier depiction would seem to be in a series of lithographic engravings called the *Tan-jen-i-chih* which was produced in about A.D. 1264 [28].

When I asked De Jonghe about the date of the loom he was of the opinion that it was of T'ang dynasty date and that this could be shown by the appearance of "Chinese samietweefsels en vooral Chinese keper 3 - keper 6-damasten" during the T'ang dynasty (A.D. 618-907; De Jonghe, pers. comm.). The type of textiles which De Jonghe is referring to have been found at various sites in Eastern Turkestan, for example, at Astana, grave 302 [30].

It would appear, therefore, that the Chinese drawloom was developed sometime during the fifth or more likely the sixth century A.D. and that by the thirteenth century it had become fully developed. As a result of these points, therefore, it would seem highly unlikely that it was this loom which was the ancestor of the loom used in the West to produce the compound weave textiles found in Egypt, etc.

9.2.4. Central Asian Looms

Another point raised in the Charleston/Crowfoot letters was that the ideas behind the development of the loom used to produce compound weave textiles may have spread from China via Central Asia/Eastern Turkestan or India, to the West. The first two elements of this suggestion have been discussed by various scholars, for example, Sylwan in her book on silk textiles from Lou-lan and Edson Gol (Sylwan, 1949, 164-169). The second part, the influence of India, has been notably neglected. Sylwan referred to the possible influence of India on Central Asian textiles but

only in passing. Other writers, such as Geijer, are notably silent on the subject (Geijer, 1979). Yet, when considering the relatively close proximity of India, with her well-developed cultural and mercantile contacts, with Central Asia during the first half of the first millennium A.D., such possible lines of contact would seem worth exploring.

It is necessary to explore the question concerning the evidence for possibly looms used in India and Eastern Turkestan during the relevant period from several different approaches. These include the archaeological evidence for various forms of looms as well as documentary and iconographical evidence. In addition it is necessary to give some details concerning the type of looms which are still in use in more remote areas of India and the Himalayas. The last line of enquiry is necessary for two reasons, firstly, little evidence appears to have survived from the period in question. Secondly, a remark was made by Crowfoot concerning the possibility that Kashmiri shawl makers might still be using a relevant loom form.

Many thousands of textiles have been found in Central Asia by explorers such as Stein, Hedin and Bergman, during the early years of this century, and by Chinese archaeologists from the 1950's onwards [31]. Yet there would appear to be very little information available concerning the form of loom (or looms) which had been used to produce these textiles. Presuming of course, that at least some of them were made within the vicinity of where they were found. Sylvan had no doubt that the people of Lou-lan, for example, possessed "both the qualifications for and the possibility of making looms" (Sylvan, 1949, 96). Some objects have been found in Eastern Turkestan which can be associated with the process of weaving. Stein, for example, found part of a wooden comb with sixteen

teeth at the site of Niya. This is very similar to wooden combs from Roman Egypt which are normally described as "weaving combs" and which were probably used for weaving tapestries and wool textiles [32]. It is also similar in appearance to the wooden combs used in the present day by the Qashqai'i of Iran for the weaving of carpets (Whitworth, 1976, pl. 27). It would seem feasible to suggest, therefore, that the Niya comb may have been used for beating down the weft threads on a vertical loom, perhaps a carpet loom or a tapestry loom.

During the early 1930's the Swedish archaeologist, F. Bergman, found parts of a heddle while working in the Edsen-Gol region of Eastern Turkestan [33]. The heddle was described as follows in the archaeological reports by Sommerstrom:

"Small fragments of rod with heddles (?) consisting of a row of flat, thin strips of cane, tied round a narrow wood stick (probably one of two larger sides of a rectangular frame). 2.5 cm from the stick, and parallel to it, there runs a fine thread drawn through each strip. Unique. L. of stick 7.5 cm. L. of strips c. 12 cms". [34].

Unfortunately, due to its poor state no further conclusions can be drawn from this object apart from the fact that the loom must have used at least one heddle.

Similarly, the loom represented in the seventh century A.D. painted panel depicting the legend of the "Silk Princess" is also incomplete; the paint being damaged along the lower edge of the panel, including, unfortunately, the region where the loom is represented [35] (fig. 164). The panel was found in 1900-1901 at Dandan-Oilik by Stein (Stein, 1907, 259-260; 300, pl. LXIII). The story depicted concerns the traditional story of how a Chinese princess who was to marry a king of Khotan was able

to smuggle silk moth eggs in her elaborate hair decoration, thus introducing sericulture to Central Asia [36]. The figures depicted from left to right are a female deity probably associated with silk worms and weaving; a male deity associated with weaving; the silk princess near a basket which Stein describes as the princess "offering protection to a basketfull of unpierced cocoons, and finally, an attendant of the princess who is pointing to the headdress where the silkworm eggs were hidden [37]. At the bottom right-hand corner, near the Princess's left hand, there is an object which appears to be a loom. In Figure 165 I have attempted to reconstruct this loom, but it should be stressed that the sketch is only tentative.

A copy of Stein's illustration of the panel, plus my own sketch was shown to J. Allgrove-MacDonald and J. Vollmer. According to Allgrove-MacDonald there was not enough information to give an opinion. Similarly, Vollmer wrote that "I have no doubt that the illustration [on the panel] in question is an artist's impression of what a loom should be rather than an exact depiction of one" (Vollmer, pers. comm). Vollmer, however, then wrote that he thought it might be a depiction of a body-tension loom "of sorts" and suggested that (in my illustration) (a) might be a breast beam, (b) might be a heddle which should be read as: "a pair of parallel rods within a frame rather than a solid board"; (c) might be for controlling an "arc-like piece which would have been controlled by the weaver's foot not unlike the Japanese *izarabata* or depictions of Han Chinese looms during the second century"; (d) might be a shed stick, and finally, (e) might be a warp beam. No suggestion could be given for the function of the knob-like object at the 'bottom' of the loom [38].

It is therefore possible to interpret the Silk Princess' loom as a horizontal variety and, further to this, to suggest that it was capable of producing tabby weave cloth. It cannot, however, be used as satisfactory evidence for suggesting that this was the form of loom which was used to produce compound weave textiles in Eastern Turkestan.

In conclusion it can be stated that there is no satisfactory evidence from Central Asian sources concerning the loom types which were used in this region during the first millennium A.D. As a result, no information can be given concerning the precise appearance of an Eastern Turkestan loom which may have been used to produce either silk or wool compound weave textiles.

9.2.5. Indian Looms

Indian textiles from the early part of the first millennium A.D. are referred to in various sources, for example, textiles described as Indian were found at the site of Niya by Stein [39]. Similarly, raw cotton has been found at the Red Sea port of Quseir al-Qadim which could easily have come from India [40]. The view that the cotton originated in India is supported by several details. Firstly, India is known to have a long history of producing cotton cloth, for example, cotton cloth was found at the third/second millennium B.C. site of Mohenjo Daro, in present day Pakistan [41]. Secondly, the port of Quseir al-Qadim lay on a sea-trade route which ultimately stretched from China, via India and Arabia to the Nile valley, and various goods of Indian origin have been found there, for example, Indian pottery from the first two centuries A.D. has been found at Quseir, including one fragment which has a Tamil-Brahmi inscription (Whitcomb and Johnson, 1982a, 263).

Silk cloth was also produced in ancient India, and there seems to be no doubt amongst Indian scholars that the techniques of silkwork cultivation and silk weaving originally derived from China [42]. According to the Indian historian, L. Gopal the Sanskrit word *Cina*, before the name of a piece of cloth or garment, indicates a Chinese origin (Gopal, 1961, 65). Gopal also refers to the Pali word *cinamsuka*, which he defines as being a Chinese silk cloth made specifically from mulberry or cultivated silk worms (Gopal, 1961, 64-65). Interestingly, by the fifth century A.D., silk weaving in India had become sufficiently established for it to be organised into guilds. According to R. J. Mehta, a temple in Malwa in north western India was dedicated to the sun-god Surya by the guild of silk weavers in ca. A.D. 437 [43].

Unfortunately, although numerous early Indian terms for and references to silk textiles have survived, little information appears to be available concerning the exact appearance of these textiles, how they were made or upon what form of loom. Gopal, for example, refers to ten different words associated with silk and silk cloth, but in respect to this thesis these are not helpful [44]. It would seem necessary, therefore, to say that although silk weaving was introduced into India at an early period, perhaps during the first centuries of the first millennium A.D., there is no indication of which types of cloth were actually being referred to or which form of loom(s) may have been used to weave these textiles.

In the letter from Crowfoot referred to previously, it was suggested that the origins of the loom which used to produce Kashmir shawls may give a clue to a more ancient loom form. One of the problems which arises when looking at the history and development of Kashmir shawls is that many were

not produced in Kashmir and that by the nineteenth century the use of 'modern' western looms had already started to make an impact on the methods by the Indian weavers who made these shawls [45]. The earliest references to the introduction of weaving of Kashmir shawls appears to be a legend centred around the fifteenth century figure of Zain-ul-'Abidin, who was also called Akbar of Kashmir (Irwin, 1973, 1). Apparently it was Zain-ul-'Abidin who introduced weavers from Turkestan in the Kashmiri region (Chandra and Agrawala, 1959-62, 35-40). No actual proof for this legendary attribution, however, appears to exist (Irwin, 1973, 1). In addition, the Indian historian M. Chandra believes that an eleventh century A.D. writer called Kschemendra was referring to a weaver of Kashmir shawls when he wrote that a weaver had been dismissed from his post because he "whiled away his time in spinning, drawing out the patterns and weaving the patterns on the strips with *tujis* or eyeless wooden needles" (Chandra, 1973, 236). Unfortunately, no further details were given.

In a recent work on Kashmir shawls, a shawl weaver called Ghulam Mohammed Kanihama was interviewed by a Dutch writer called E. Mensinga, about the introduction of shawl weaving into his remote village of Kanihama in Kashmir [46]. According to Ghulam Kanihama one of his forefathers called Mirza Samad settled in the village in A.D. 1777 and introduced the villagers to the techniques of Kashmir shawl weaving. The industry flourished for many years in the village, but there are now very few people working on the shawls (Mensinga, 1984, 65). The looms and weaving techniques which they use are described by Mensinga and the weavers as being the 'traditional' forms (Mensinga, 1984, 63, 64-65).

The looms depicted by Mensinga are small and have two heddles and a reed to control the warp (Mensinga, 1984, pl.3). The warp is fixed to a moveable back beam, but because of the limited workshop space, the warp is first passed over two beams to form a U-shaped bend in the warp threads (fig. 160). It is interesting to note that the same type of loom was depicted in an illustration from 1820 which is now in the Indian Office Library, London [47]. The pattern of the shawl is introduced into the warp by hand using a pick-up system with small bobbins which have been wound with variously coloured threads (up to about 3,500 bobbins per shawl are not uncommon; Mensinga, 1984, pl. 5). The ground weave is a 2/2 twill [48]. Apart from the heddles which are attached to foot treadles, there is no indication of any mechanical patterning device. It would seem unlikely, therefore, that this form of loom can be seen as the descendent of a loom which could produce the more rigid patterns in few colours which are associated with compound weave textiles.

Apart from the pioneering work of the Swedish historian, G. Montell and later that of R. A. Innes and V. Ronge, little work appears to have been carried out on the types of looms used in other regions which neighbour northern India [49]. As a result it is not possible to establish satisfactorily whether a loom type has survived in these regions which could be described as an ancestor of the loom used to produce compound weave textiles in the West. There are similarities, however, between the foot-braced loom used in China which was described previously and a body-braced loom which, according to Montell, was used during the nineteenth century by a Tibetan tribe in the Nanshan mountains near Suchow in the Chinese province of Kansu Tibet. The Tibetan loom was described and illustrated by Montell (Montell, 1934, fig. 2). It consisted of a

rectangular frame of logs within which the woman sat. One end of the warp was fixed to her waist, the other end was fixed at the other ends by a variety of means, perhaps a tree, on a stand or around a stake fixed into the ground. The warp was kept in place by using a single heddle with a laze rod and one or more pattern rods. The wefts were beaten in using a sword beater. According to Montell, the Tibetan loom can be compared with the loom used by the Aino people who live in the northern islands of Japan and along parts of the northern coasts of China [50]. The weaver using the Aino loom also sits within a rectangular frame and has the warp tied to her waist, but the other end of the warp is fastened to a back beam which is an integral part of the loom (Montell, 1934, figs. 1-7).

In a recent book on Nepalese narrow patterned cloth and their loom, it was suggested by the author S. Dunsmore that some of these looms were of a very ancient origin, although it should be noted that what constitutes 'ancient' was unspecified (Dunsmore, 1983, 2). According to Dunsmore, the following looms are currently in use in the Kosi Hills of Nepal: horizontal ground looms; vertical carpet looms; tablet looms; back strap looms; outdoor bamboo/wood treadle looms with throw shuttle, and portable frame treadle looms with four heddles (Dunsmore, 1983, 4). All of the looms were made locally (Dunsmore, 1983, 8, 29). One of the looms which she illustrates is a back-tensioned horizontal loom which is reminiscent of the Chinese back-tensioned loom mentioned previously. The Nepalese loom, however, is much smaller and uses two heddles operated by a foot treadle (fig. 167). The pattern is introduced by using a pick-up system whereby the supplementary weft picks are introduced by hand using variously coloured threads wrapped around three or four bobbins. The average width of cloth produced on these looms is only 18 cms for men's

caps and 40 cms for women's shawls (Dunsmore, 1983, 18-23). It would seem unlikely, therefore, that this form of loom could be seen as the direct descendent of the loom type which produced the compound weave textiles. On the other hand, as some comparisons can be drawn between the body-braced looms of China, Tibet and Nepal, it would seem possible that other forms of looms may once have existed in these regions, which could be compared with the 'Han loom'.

In conclusion then, although it can be shown that the concept of compound weaves did appear to travel from China, via Eastern Turkestan to the Near East, at present there is no satisfactory evidence to indicate that the concept of a loom suitable for producing this type of cloth also travelled from China to the Near East. This leaves open, therefore, the possibility that the origins of the loom which was used to produce the compound weave textiles in the Near East should be sought for in Western looms.

9.2.6. Looms from the Near Eastern

The amount of information about the types of looms which were in use in the Near East during the relevant period is considerably more than that available from China, Eastern Turkestan or India. Representations of looms can be traced back to the Prehistoric period (ca. 4500-2900 B.C.) in Egypt, while they are not an uncommon motif in Greek pottery from various periods [51]. A further, and valuable source of information are the remains of individual looms and building complexes which would appear to have been used as weaving workshops, which have been preserved at a number of sites throughout the Near East [52]. One final source of information

are relevant texts in the form of literary manuscripts, personal communications and official records.

From the range of information given above, plus various articles and books written by modern writers on the subject of looms, it is possible to identify three basic types of looms which were in general use in the Near East, until, at least, the end of the first millennium A.D. [53]. These are the horizontal or ground loom; the vertical or fixed-beam loom and the warp-weighted loom.

The Ground Loom: This type of loom is of a very simple construction and merely consists of a horizontal warp which has been stretched in its entire length between two beams (fig. 168). The beams are kept in place by pairs of pegs which have been driven into the ground. One shed is a natural shed, while the countershed is obtained by lifting a simple heddle or heddle rod (Roth, 1950, 45-46, fig. 89). The weaver started at one end of the warp and worked until she reached the other end, moving the position of the heddle as she wove (*ibid.*). The oldest Near Eastern representation of this loom is on a Predynastic/Badarian period (ca. 4500-4000 B.C.) bowl which was found at Badari in Lower Egypt by G. Brunton in the early 1920's [54]. The bowl was found in a woman's grave (no. 3802), and clearly shows a horizontal loom which has the warp threads stretched between two beams; the beams are kept in place by four pegs which are tied near the beam ends (fig. 169). Three lines cross the warp at the centre and may represent rods, perhaps a heddle rod, plus two sticks for keeping the warps in place and to help in producing the natural shed. To the right of the loom there are three lines which may indicate three throws of the weft. To one side of the loom there is an object which may be a weaving comb, but this is purely speculative [55]. Above the loom there

is a representation of two figures holding or carrying a long 'string' or pole over which thread-like strands have been arranged. Brunton and Caton-Thompson have suggested that these figures may be preparing a warp by hanging lengths of yarn over a cross-pole, which would seem a reasonable suggestion, but it should be stressed that there is no actual evidence for this idea [56].

More detailed depictions of the horizontal or ground looms can be found in a number of Eleventh and Twelfth Dynasty (2040-1991 and 1991-1783 B.C. respectively) tombs at Beni Hasan in Middle Egypt. Four tombs have painted weaving scenes, namely, the tombs of Amenemhat, Khnemphoteb, Baqt and Khety (tomb numbers 2, 3, 15 and 17 respectively) [57]. The most detailed depiction of the horizontal loom is to be found in the tomb of Khnemphoteb [58]. It should be noted, that although the loom appears to be a vertical loom, it is in fact being shown as a bird's eye view, perhaps so that all the details of the loom could be clearly seen (*ibid*, pl. xxix). The depiction of the loom clearly shows the working position of the heddle rods, sticks and sword beater, as well as the places from which the weavers worked [59]. In addition to these painted representations of the horizontal loom, a number of Eleventh and Twelfth Dynasty tomb models have also survived which include the women working at this form of loom, for example, an Eleventh Dynasty weaving workshop from the tomb of Meket-Re at Deir el-Bahri [60].

Ground looms continue to be used to the present day in various, more remote regions of the Near East, although in recent years its use has declined, probably due to the introduction of cheaper, industrially produced goods [61]. In the Sudan, for example, a virtually identical loom was used within the last ten years for the production of long lengths

of coarse cloth; while Berber women of the Ayt Yazza tribe of Morocco use a horizontal loom which is similar to, although not identical with, the ancient form (Picton and Mack, 1979, figs. 45 and 47). One reason which has been given for the survival of this loom type is that it is very suitable to the life of nomadic people, because it can be very easily packed and later reassembled (Picton and Mack, 1979, 60).

Vertical or Fixed-beam Looms: A second form of loom which has been found throughout the Near East is the vertical loom. As the name suggests, instead of the warp being stretched horizontally as in the loom described previously, the warp threads in this loom form are vertically tensioned (fig. 170). In order to do this the warps are fastened to two beams (the top or warp beam, and the lower, breast, or cloth beam). The loom is placed either vertically to the ground or lent against a firm object such as a wall. The lower or cloth beam can be fixed into position by one of a variety of methods, for example by being placed in a slight shallow in the ground; resting in grooves cut out of heavy blocks, or perhaps fixed to the ceiling of a room (see for example, Crowfoot, 1941, 141). The weavers stood or sat at the base of this type of loom and worked upwards (i.e. the weft threads were beaten downwards). As a generalisation, it would appear that in the first two examples the warp was released during the process of weaving, by turning the top or warp beam, while in the third example the top beam was actually lowered (Crowfoot, 1941. 142). The sizes of these looms seems to vary, for example two looms are depicted in the Eighteenth Dynasty tomb of Thot-nefer at Thebes which are of markedly different heights. Based on the size of the weavers, it would appear that the upright beams were between three and five metres in height [63].

The fixed beam loom has been depicted in several Eighteenth Dynasty tombs, most notably the tomb of Thut-nefer at Thebes (Davies, 1929, fig. 1a). The appearance of this loom during the New Kingdom period (1550-1070 B.C.) has led to speculation that it was introduced as a result of the Hyksos invasion of the mid-seventeenth century B.C. [64]. There is no evidence, however, to suggest that the Hyksos people, who ^{may have} originated in Palestine, actually brought this form of loom to Egypt, although it should be noted that the dates when it first appeared in Egyptian tomb paintings and the fact that the horizontal and warp-weighted looms were both used in Palestine and Syria would suggest that there may have been some connection [65].

The late English Egyptologists, T. E. Peet and C. L. Woolley suggested that the horizontal loom may have been in use at an Eighteenth Dynasty site called Tel el-'Amarna in Middle Egypt [66]. The suggestion was based on the discovery of a series of paired stone blocks which were found in three houses in the Workmen's Village region of the site [67]. It was suggested by Peet and Woolley, that these blocks could have been used to support the bed beams of an upright loom (Peet and Woolley, 1923, 78). Two of these pairs were found in a shallow trench set at an angle from the houses and judging from how closely the trenches lie to each other it would seem unlikely that they had been used for a horizontal loom (Peet and Woolley, 1923, pl. XVI).

The fixed-beam loom was also described by Geijer as being a tapestry loom (Geijer, 1979, 23-24). The description was based on the Egyptian loom's similarity to medieval European looms and a seventeenth century Peruvian loom (*ibid.*, 22-3, II, fig. 2). A number of tapestry woven textiles have survived from the New Kingdom period, for example with the

cartouche of Amenophis II, which was found in the tomb of Tuthmosis IV or the quiver and glove of Tutankhamun [68]. There is, however, no evidence to suggest that the fixed-beam loom had been used to produce this form of cloth or that large tapestries on the scale indicated by the loom sizes (see above), were being produced in Egypt during the New Kingdom period (1550-1070 B.C.). It would seem therefore that the term 'tapestry loom' is not really applicable.

Similar looms, but on a much smaller scale, are also depicted in a number of Roman sources, for example, the beam looms from the Forum of Nerva at Rome which was finished during the reign of Trajan (A.D. 98-117) [69]. There is also a smaller two beam loom from the first half of the third century A.D., which was painted on the wall of the *hypogeum* of the Aureilii [70]. Similarly, there is another fixed-beam loom depicted in a fourth century manuscript of Virgil's *Aeneid* which is now in the Vatican Library [71].

The vertical loom has survived to this day in the Near East in a variety of forms, notably, the vertical carpet loom. The loom is also used in Egypt for the production of large tapestries, for example those pieces associated with the Wissa Wassef School, at Haraneya near Saqqara, Egypt [72].

Warp-Weighted looms: Another form of vertical loom is the warp-weighted loom, but in this case the bottom beam is replaced by a series of stone, mud, or clay weights which tension the warp ends (fig. 171). The warp-weighted loom was usually stood against a wall in order to produce a natural shed and the weft was inserted at the top of the loom and was

beaten in with an upward movement, as opposed to the downward movement associated with the fixed-beam loom described previously.

The ancient nature of this form of loom has been attested to by the discovery of loom weights in sequence in regions as far away from each other as Norway and Syria [73]. It is interesting to note that this form of loom is still in use in Norway, although it is only confined to one very remote valley in the north of the country (Hoffmann, 1977, 47-159). There would, however, appear to be no evidence to suggest that warp-weighted looms were in general use in Egypt, Eastern Turkestan or China.

There is also a second form of warp-weighted loom which the late English Egyptologist, A. C. Mace, has suggested may have been in use in Egypt during the Pharaonic period (Mace, 1922, 75-76). Mace's suggestion was based on two points, firstly the discovery of individual 'loom weights' at various Pharaonic sites such as Lisht and Kahun (*ibid.*) [74]. Secondly, because stone loom weights were used on a type of loom which was in use in Egypt when Mace wrote his article. The modern loom was described as being used at the village of Maharraqa near the southern pyramid at Lisht, in Upper Egypt (Mace, 1922, 76). It was a horizontal warp-weighted loom with the warp being carried over a beam to add the extra tension. It should be noted, however, that apart from the so-called loom weights from Lisht and Kahun and similar objects from 'Amarna which Mace did not refer to, and the modern use of this type of loom in Egypt, so far, no further evidence appears to exist for its use in Ancient Egypt. Nevertheless, questions as to when this form of loom was introduced and whether it is of significance in relation to compound weave textiles, will be discussed in greater detail later [75].

In addition to the basic types of looms which have been described above, a number of small looms or frames were also in use in the Near East and Mediterranean during the relevant period, for example, the looms or frames used to produce sprang, or those used for card or tablet weaving [76]. In general, however, the construction of these looms/frames would seem to make them too small and simple to produce the type of cloth under consideration. So apart from mentioning their existence, it does not seem necessary to discuss them in further detail.

As can be seen from the above information, none of the looms described include the apparently necessary equipment to produce the compound weave textiles, i.e. some form of mechanical patterning device. If, however, Crowfoot is correct in her view that a simple form of loom was used which was modified in some way, then it would seem reasonable to suggest that one of the looms described above may have been used, with the addition of "sticks and strings" to produce compound weave cloth. In order to explore exactly which of loom may have been used and which modifications would have been required, it is now necessary to look at the evidence from the compound weave textiles themselves.

9.3.1. Evidence From the Wool and Silk Compound Weave Textiles

A number of textile historians have simply described the compound weave textiles as being "drawloom weave" textiles [77]. Yet, as I hope I have already shown in previous chapters, it is highly unlikely that the compound weave textiles which were found in Eastern Turkestan, Iran and Egypt were actually produced on the European concept of such a loom. In addition, several scholars, most notably, G. M. Crowfoot, H. Burnham, G. Vial, D. De Jonghe and J. Becker, have written about the information

which they have gleaned from numerous fragments of compound weave cloth, concerning the manner in which the textiles were woven. Each of these authors have approached the problem from slightly different view points, Burnham and Vial, for example, wrote about Chinese silk warp-faced compound weave textiles which were found in Eastern Turkestan [78]. On the other hand, both Crowfoot and De Jonghe have written about silk or wool compound weave textiles which were believed to have come from the Near East [79]. In addition to his work on Egyptian compound weave textiles, De Jonghe has also described a number of silk compound weave textiles from a variety of other Near Eastern and European sources [80].

In this section I would like to look at the work of the above mentioned writers and subsequently to give some indication as to what form of loom (or looms) I feel may have been used to produce the compound weave textiles referred to in this thesis. It should be stressed at this point, however, that no complete loom of any type has survived from the relevant period in Egypt, so the following discussion in which a suitable loom for the production of simple compound weave textiles must be regarded as hypothetical. In order to create such a loom it is first necessary to look at the evidence which can be obtained from the pieces themselves. The following discussion on the compound weave textiles has been divided into two, firstly, the information which can be gained from the visual appearance of the compound weave textiles, and secondly, information which is gained from a structural analysis of the textiles.

9.2.2. The Visual Appearance of Compound Weave Textiles in Wool

One of the first points to be noted is that the textiles can be visually divided into two types. The first group consists of wool or

silk compound weave textiles which have simple geometric designs, for example, a wool compound weave textile <84> which was found at Qau in 1923; a blue and natural check design, also in wool, found at Qustul, or finally, a silk compound weave textile found in the tomb of St. Paulinus, Trier, W. Germany [81]. All of these textiles have been woven in a simple weft-faced compound tabby weave (type 1a).

The second group of compound weave textiles includes all the pieces with complex geometric forms which enclose animal or bird forms, plus large scale figurative patterns, some of which are enclosed in geometric forms, while others are free standing. Various textiles can be cited as suitable examples of these forms, for example, the red and natural wool textile now in the Royal Ontario Museum which has octagons enclosing deer and dogs (ROM 970.364.9 <16>); a large textile now in the British Museum which has bands of humans and animals hunting various other animals (BM 21703 <39>), or finally, the large scale hunting scenes associated with the wall-hanging now on display in the Abegg Stiftung, Berne, which includes depictions of boars, felines, etc. (AS 142 <142>) [82]. This group of textiles are woven in tabby and twill compound weaves, although the majority of the more complex forms are twill weaves (it should be noted, however, that these more complex forms are not inevitably woven in a twill weave).

A very small number of compound weave textiles have survived which include either both selvages or transverse edges, or as in one case, both selvages and transverse edges. In Table 18 a list has been given of the maximum warp and weft lengths of these compound weave textiles. It is possible from the size of these textiles to give some indication of the minimum width of the looms which must have been used to make these

textiles. The measurements of these textiles refer, however, to the width of the actual weaving area, rather than the complete width of the loom. Also, an allowance has to be made for the shrinkage of the cloth when it is first washed. In the case of flax this can be up to 15%, while with wool 20-25% is feasible (M. Straub, pers. comm.). All of the looms described previously in this chapter included a beam around which the woven cloth was wound in some manner, which is called the cloth beam. If it is assumed that the cloth beam was a minimum of half a metre wider than the width of the cloth which was being woven, then it would suggest that a maximum loom width of about 2½ and 3 metres would not be unreasonable.

The standard measurement used during the Roman period in Egypt was the cubit, which equals about 42 cms [83]. The figures given in Table 18 would suggest that the widest of these textiles, i.e. the British Museum example, was originally about 3.3 cubits wide and thus it may have been woven on a loom which had a minimum width of four cubits.

Information concerning the length/height of the looms associated with these compound weave textiles is more difficult to gauge as it is impossible to say whether the sizes given represent the complete length of warp used on the loom, or a fraction of it, for example, it is possible that the warp was wrapped around the back beam and was released when necessary. In this way it was possible to weave cloth lengths of considerable size, for example many pieces are about seven metres in size and it would appear that several pieces were woven using the same length of warp, so giving warp lengths of between perhaps 20 and 23 metres [84]. In Table 18 the length of the textile from the Washington Textile Museum (TM 31.11 <266>), is given as being nearly 2½ metres and it would seem

Table 18

The measurements of complete, or near complete, weft-faced compound weave textiles, both twill and tabby forms (the pattern direction in comparison with the warp direction has been indicated by an arrow, → ↑)

Acc. Number	Warp length (cm)	Weft length (cm)	Pattern direction
Washington Textiles Museum 31.11 <266> (complete)	238.6	132.7	↑
British Museum 21703 <39> (incomplete warp length)	82	139.0	→

unlikely, although not impossible, that a loom of this length was in use for the production of such a complex pattern. It would seem more likely, therefore, that the warp threads had been wrapped around a beam and released as ^{and} when necessary.

It will be argued in a later chapter that the British Museum textile given in Table 18, was actually one of a pair of curtains [85]. If this idea is accepted as being correct, then two possibilities can be suggested concerning the length of the warp threads. Firstly, the two pieces were woven separately and thus the warp length was originally about 1-1½ metres. If ¹one metre for fixing the warp ends to the warp and cloth beams is added, this would mean that a warp of a length of about 2 to 3½ cubits should be considered. Alternatively, the two pieces of cloth were woven one after another on the same warp threads, thus giving a minimum warp length of 2-2½ metres (4½ to 6 cubits). The measurement would seem more reasonable considering the length of time it must have taken to thread up the pattern device, and in view of the cloth lengths known to have been woven in Pharaonic Egypt, i.e. up to 22 metres. It should be stressed, however, that this is hypothetical.

The cubit widths of the compound weave textiles, as given above, can be compared with a number of first century A.D. contracts for the sale of looms which were found at the mid Egyptian site of Oxyrhynchus. In P. Oxyrhynchus 234 (dated A.D. 54), for example, reference is made to a loom which was three weaver's cubits, less two palms and was comprised of two rollers and two beams; a loom of the same size and description is given in P. Oxyrhynchus 2772 (dated A.D. 82). Unfortunately, neither of these descriptions makes it clear whether the measurement given refers to the width of the loom or to its length. J. P. Wild, in his book on textiles

from the Northern Roman Provinces, has suggested, however, that these measurements relate to a vertical fixed-beam loom, and that the three cubits, minus two palms, refer to the length or height of the loom (Wild, 1970, 72). A comparison between the loom widths indicated by the compound weave textiles and the above measurements would indicate that Wild's suggestion was correct. Thus, it can be suggested that the two looms which were for sale in Oxyrhynchus during the first century A.D. were not of the same type as those which were to be used for the production of compound weave cloth.

In another papyrus from Oxyrhynchus (A.D. 298), there is a reference to a loom which was six cubits by ten cubits in size (Hunt and Edgar, 1932, 106-109). It has been suggested by the American scholar D. L. Carroll in her article on the development of the treadle loom in Egypt, that this papyrus contains one of the earliest references to a treadle loom (Carroll, 1984, 173). Wild, however, has recently suggested that this loom was a vertical two-beam form and, as such, care should be taken when using this papyrus as evidence for a suitable 'compound weave' loom (Wild, 1987, 465).

A much later, sixth/seventh century A.D. letter concerning the removal of a loom is given in an ostrakon which was found at the Egyptian monastic site of Epiphanius. The ostrakon was found during excavations at the site in either 1911-12 or 1913-14 by H. E. Winlock, The Metropolitan Museum of Art, New York. According to a translation and comments by W. E. Crum relevant ^{or the} text, the loom had to be transported on two camels due to its size [86]. Unfortunately no further details were given, but it does give some impression of both the size and weight of at least one type of loom which was used during the sixth and seventh centuries A.D.

Starting Borders Versus Corded Transverse Edges: The presence of a starting border on a textile is used by many textile specialists to indicate that the cloth has been produced on a warp-weighted loom [87]. These borders can be found in a variety of forms, for instance, those woven on tablet loom or formed from a plain weave band which has the weft extended on one side to form a large loop which was placed over a peg. When enough warp ends have been wrapped around the pegs, they are removed and then tied to the cloth beam; the lengths of thread are allowed to hang vertically (Crowfoot and Griffiths, 1939, 42). One of the main features of these borders is that there is a difference both in appearance and structure between the border region and the main ground weave cloth (for example, the warp threads in the band and the cloth lie at right angles to each other). No such border has been found in association with any of the compound weave textiles which I have personally examined, or in the descriptions of other compound weave textiles. It would suggest, therefore, that compound weave textiles were not produced on the vertical, warp-weighted loom.

Instead, however, of a starting border, a number of the compound weave textiles have corded edges. These are produced by the twisting together of the warp ends after the cloth has been woven and taken off the loom. According to Crowfoot and Griffiths, the presence of a corded border on a compound weave textile is proof that the border must represent "the breast-beam end of the warp", due to the fact that it is impossible to weave a warp right up to the end, although it can be darned in (Crowfoot and Griffiths, 1939, 42). Numerous examples of cloth with raw, fringed or corded edges have been found in both Egyptian and Nubian sites, and these are associated with the use of horizontal ground looms

or vertical fixed-beam looms. The use of a vertical warp-weighted loom in these regions appears to be unknown or so little used that it has left no traces [88].

A number of the compound weave textiles have an area of twill weave (usually a 2/2 herringbone weave), between the raw ends and the commencement of the compound weave area [89]. This detail can also be taken as a further indication that the loom used was not a warp-weighted loom, as normally the band connecting the cloth to the beam was woven in a warp-faced tabby weave, or in a simple weave on a card or tablet-loom. The use of the area of twill weave has been taken by De Jonghe as a further evidence that heddles were used to control the binder and main warps, and that a separate system was used to control the other warp ends. ^[90] This point will be discussed in greater detail later,

9.3.3. The Mechanism of the Hypothetical Loom

In addition to the above observations concerning the general appearance of the hypothetical loom which is reconstructed on the basis of the structure and appearance of compound weave textiles, it is also possible to give more specific details concerning the loom's mechanisms. These statements are based on a much closer analysis of the structure of the compound weave textiles, for example, the way the patterns were woven, and the nature and size of the repeats. Also included in this section is a discussion concerning two very fundamental questions relating both to the history and development of the compound weave; firstly, what form of patterning device was used to produce the textiles? Secondly, were foot treadles used or not?

The Use of Reeds: In an account by D. L. Carroll on the introduction of the foot-powered loom in Egypt, she wrote that the reed was an essential feature of the horizontal loom (Carroll, 1985, 169). In support of this point she referred to three wooden objects which have been identified by Ling Roth as reeds [91]. Yet it was pointed out by J. Becker and D. Wagner that a number of Han silk textiles had patterns which, although they contained the same number of warp ends per repeat the size of the repeats differed slightly (Becker and Wagner, 1981, 22). The interpretation given to this detail was that the looms did not have a reed in order to space evenly the warp ends. Similarly, in Xia's reconstruction of the Han loom, no reed was depicted, or considered by Xia to being necessary [92].

If it was possible for the complex Han compound weave silks to be woven without a reed, then it would seem reasonable to suggest that the use of a reed with other forms of horizontal loom (treadle or otherwise) is not essential. The point can be further strengthened by looking at a number of wool compound weave textiles with simple geometric design, for example, a piece which was found at Qustul, Nubia (see fig. 127; <165>) [93].

The repeat size of the rectangles associated with the design of this textile varies both in length and width. The variations in the length of the rectangles can be explained by the presence of extra weft throws. The number of ends per pattern repeat is, however, consistent. Presuming that Becker and Wagner are correct, this would suggest that no reed was used on the loom which produced these fragments of compound weave cloth.

It should be noted, however, that there are a number of textiles, for example, two textiles found at the Egyptian site of Antinoë, which

have a variety of horizontal repeat sizes because the number of warps in the repeat are not consistent and vary from between 13 and 17 warps per repeat unit (it is always, however, an odd number) [94]. So the uneven appearance of a horizontal repeat may seem to indicate that no reed was used, but a closer examination may reveal that it was due to a different number of warp ends being used per pattern block. The same effect can also be seen on the design of Stockholm K. 11, 227,367; <229>, see fig. 130).

Further to the above points the reinforced selvages associated with a number of compound weave textiles in wool (up to 28 extra picks in some cases), would also suggest that a reed was not essential, or even practical.

The Heddles: The use of at least one heddle on looms from the Near East has long been attested to, indeed the earliest representation of a loom from this area of the world, namely that on the Badari bowl, seems to include a heddle. It is not surprising, therefore, that the use of one or more heddles to control the production of compound weave textiles should be regarded as an acceptable, if not a necessary, fact. One of the questions which have to be considered, however, is the number of heddles were used? And what were their functions? In 1939 G. M. Crowfoot and J. Griffiths wrote that the pattern of the simplest compound weave textiles which they had examined could be woven on a minimum of four heddles using a modern hand loom (Crowfoot and Griffiths, 1939, 40). In order to illustrate this point they gave weave diagrams for the wool compound weave textile found at Qau, Egypt <82> and another example now in the Victoria and Albert Museum <116> see figs. 111, 172 [95]. The compound weave associated with these textiles was in both cases a tabby

 form (type 1a; *ibid.*, 40). No difference was made in their article between the binder and main warps and the other heddles required to make the pattern. In addition, they suggested that the heddles were lifted in pairs in order to produce the pattern (*ibid.*, 41)

Later work done on the same subject by authors such as Burnham, De Jonghe and Becker has suggested that the main and binder warps were operated by the use of heddles, but that the main warps were controlled by another system [96]. According to writers such as Geijer this other system was the drawloom harness, but others, most notably, Burnham and De Jonghe, hold the opinion that pattern rods were used [97]. The question of a drawloom harness versus pattern-rods will be discussed later in this chapter.

One particular point which De Jonghe has raised is that the area around a pattern which has been worked in a compound weave cloth is sometimes in another weave form, generally a tabby weave, see for example, Louvre AF 6084 and Keir T26 (<141, 177>, De Jonghe, pers. comm.). According to De Jonghe, such areas are never woven in a 1/1 tabby weave, thus suggesting that (a) the heddles and the pattern system were controlled in two separate ways, but that these systems could be easily integrated, and indeed, that they were both necessary for the production of these tabby weave areas, and (b) the binder and main warps were controlled by two separate heddles (De Jonghe, pers. comm.). I have been able to confirm De Jonghe's observation by my own examination of a number of compound weave textiles, for example, the two examples mentioned above have tabby weave bands with the warp threads grouped together as follows: 3 2 1 2 3 2 1 2 3 (Louvre 6084 <141>), and 1 2 1 2 1 2 1 2 (Keir T26, <177>). In another compound weave example which was

found at the Egyptian site of Gebel Abba (ROM T.75, <9>), the warp threads have been arranged in groups of three in the monochrome, weft-faced tabby weave bands which separate the various compound weave areas. Finally, some word should be said about a large compound weave textile now in the British Museum (BM 21703, <39>), which has bands made up of three different types of tabby weave, namely, (a) the decorative bands which are woven in a compound tabby weave type 2b; (b) areas of bands with looping woven in 3/3 weft-faced tabby weave, and (c) a 1,5/3,3 weft-faced tabby weave with areas of 5,5,1/1,3,3 compound tabby weave (this textile will be returned to later).

There is, however, one textile which does not conform to these findings, namely the so-called *zilu* type example from Shahr-i-Qumis, Iran <166> which has two bands of compound tabby weave (type 1a) separated by an area of tabby weave. Later in this chapter I hope to show that the type of compound weave textile referred to above and the *zilu* type compound weave textiles were made on different types of looms. This point may account for the fact that with the so-called 'normal' wool compound weave textiles, such as those given above, it would appear to be impossible to move from the compound weave region to a 1/1 tabby weave area, while it was possible to do so for the *zilu* and *zilu* type compound weave textiles ~~as a different type of loom was used~~.

The Patterning Device: One of the points which Crowfoot and Griffiths made was that there was a similarity between the structure of the Egyptian compound weave textiles and cloth produced by the Navaho Indians of North America (Crowfoot and Griffiths, 1939, 43-44). The Navaho Indians, however, produced these textiles on a vertical loom and created

the weft pattern by hand, rather than with a mechanical device. A modern parallel can be found in the Near East for the use of a vertical loom for the production of *zilu* compound weave cloth. As yet, however, I have been unable to find any parallels for the second detail. Indeed, the evidence which will now be presented would go against the suggestion of the hand insertion of the design, in favour of a mechanical patterning device.

It has been determined by a number of authors that the patterning device associated with both warp and weft-faced compound weave textiles (in silk or wool), was attached to, and controlled by, the warp rather than the weft threads [98]. The determination of which threads controlled the pattern has been deduced on the basis of several factors, namely: (a) faults in the patterning system and (b) the order and manner in which the design repeats were woven. These two points will now be discussed in greater detail:

(a) Faults in the horizontal line of the patterns, for example, on a textile found at the Egyptian site of Antinoë in 1914 and which is now in the Victoria and Albert Museum (VA T.168.1914 <81>; see fig. 109). The fault consists of 'extra' weft throws (double throws) in the pattern. A second form of weft fault is where a pick floats over several warp ends. Such a fault can be found in both the warp and weft directions and occurs (a) in the weft when the throw misses either a single or group of picks/ends and (b) in the warp direction when a single heddle loop breaks or is incorrectly tied. These faults, however, are not usually repeated at regular intervals, so it could be argued that they represent a mistake made during the weaving of the cloth, rather than a fault in the method

by which the loom had been threaded up, and which could only be corrected by the laborious unthreading and then rethreading of the warp ends.

Faults also occur in the patterning or binding system may include those which only have a localised effect, for example, where a warp end has been missed out causing a vertical line to appear on the surface of the cloth (Detroit, 67.11 <169>; see figs. 70-71). A more drastic effect can be seen in the case of a compound weave textile now in the Norwich Castle Museum (Norwich 58.19(39)a <120>), whereby a block of ends has ^{been} missed out (see figs. 72, 175) [99]. In the Norwich example this meant that the pattern of alternating red/blue squares has been interrupted by the presence of two blue squares next to each other. As both of these faults lie along the vertical axis of the textile, and they are repeated along the complete length of the cloth (as extant), they can be used to indicate that the pattern was controlled by the manipulation of the warp threads rather than the weft threads.

(b) Pattern Repeats: the range of patterns associated with the wool compound weave textiles recorded in this thesis fall into two basic types. Firstly, the consecutive repeats whereby the pattern is identical in each unit and all face the same way, i.e. the weave has been produced in the following order 12345 12345 12345 etc. This patterning method can be clearly seen in various wool compound weave textiles, for example, a textile from the Egyptian site of Qasr Ibrim (QI 74T/300 <53>), which has alternating rows of lions which face in different directions (see fig. 119). In this particular example the two rows of lions represent one repeat. The second type of repeat is where a mirror image of the pattern is created, i.e. 12345 54321 12345 etc. Again this can be clearly seen in another wool compound weave textile from Qasr Ibrim,

namely QI 74T/8 <45> (see fig 113). In this example, the simple diamond shape has been produced in two halves which are defined by the presence of a row of looping.

In addition to these basic forms of pattern repeats variations can occur in respect to whether the pattern lies on a vertical (warp) or horizontal (weft) line. For example, there is a wool compound weave textile in the Victoria and Albert Museum (T.133.1935 <102>), which has a horizontal mirror image repeat (fig. 173). Generally speaking, designs which lie on the vertical line can be much greater in size than those which lie on the horizontal and which are limited to the size of the loom. This point can be illustrated by reference to a complete wool compound weave textile which is now in the Textile Museum, Washington (31.11 <266>; fig. 174). In this example the width of the cloth is 129 cm, with a pattern length of about 120 cm. The pattern repeats half way so that the complete cloth length (239 cm) is made up of two pattern repeats. There is, however, one curious point about the pattern repeats of this particular textile. At first glance it would appear that the complete cloth has a pattern which is made up of a simple mirror image repeat which occurs halfway through the cloth, for example, the urns with birds at either end of the cloth face in different directions. There are, however, two bands made up of two rows of stylised heads which face in the same direction. This detail would imply that the patterning device associated with this textile could be manipulated in such a way that it was possible to have either or both methods of pattern repeat. In its turn this detail would also indicate that although a specific order could be followed, for example, of 12345 12345, where necessary the weaver had the option of altering it at will, to, for example, 12345 54321, without

detrimentally disturbing the appearance of the pattern.

The fact, however, that such repeats do occur is evidence to show that the patterning device controls the warp threads rather than the weft threads. This point can also be shown by the sheer regularity of the design. If the pattern was simply added by hand then irregularities and differences would occur between each pattern repeat. In cases where no such irregularities occur, however, then it is clear that some other method of patterning has been used whose basic order could not be altered, although elements within that order may be repeated, i.e. 123345 123445 etc., instead of 12345 12345. The responsibility for such faults, however, lies with the weaver rather than the method by which the pattern repeat was produced

Reference has already been made to the conclusions reached by Crowfoot and Griffiths that four heddles had been used to produce the simpler forms of compound weave cloth (Crowfoot and Griffiths, 1939, 46-47). Certain significant details, however, were not described by Crowfoot and Griffiths, namely that the warp threads could be divided into four different types: (a) the binder warps; (b) the main warps; (c) the first colour pattern warps, and finally (d) the second colour pattern warps (fig. 175). If this matter had been pursued they may have come to the same conclusion arrived at by various authors since that date, most notably, Burnham, Baker and Wagner, De Jonghe and Becker, namely that the designs of both warp and weft-faced compound weave textiles were probably produced by a combination of heddles and pattern-rods [100].

Up to this point emphasis has been placed on the production of a weft-faced compound tabby weave form, but the question must be asked

Two different types of compound twill weaves have been identified within the group of textiles recorded in the catalogue. The first type is made up of a $1/5$ twill alternating with throws of a $5/1$ twill weave, while the second is a more complex form made up of alternating picks of $1/5$ twill with a $3,1/1,1$ twill (see figs. 44 and 45). The main warps of this form are usually paired and give the appearance of a $1/8$ twill alternating with a $5,2/1,1$ twill weave. The same basic heddling system can be applied to both of these twill weaves, namely, a division between the binder warp threads (b) and the main warp threads (m). The first group produces the warping sequence given in Figure 176a,b (diag. 1a-c), while the second type is given in Figure 177 (2a-c).

Diag. 1a

The basic weave structure of the 1/5 compound weave

m b m b m b m b m b m b m b m b m b m b m b m b m b m b m b m b m b m b m

x x x x x - x x x x x - x x x x x - x x x x x - x x x x x - x x x x x - x x x x x a

- x - - - - - x - - - - - x - - - - - x - - - - - x - - - - - x - - - - - x - - - b

x - x x x x x - x x x x x - x x x x x - x x x x x - x x x x x - x x x x x - x x x c

- - - x - - - - - x - - - - - x - - - - - x - - - - - x - - - - - x - - - - - x - d

Two warp binding sequences are possible with a minimum number of heddles or heddles and rods:

Diag. 1b

x	x	x	x	x	x	x	i	(b; heddle)
	x		x		x		ii	(b; heddle)
x	xxx	x	xxx	x	xxx	x	iii	(m; rod)

or

Diag. 1c

x	x	x	x	x	x	x	i	(b; heddle)
	x		x		x		ii	(b; heddle)
xxx	xxx	xxx	xxx	xxx	xxx		iii	(m; rod)
x	x	x	x	x	x	x	iv	(m; rod)

The basic weave structure of the 1/5:3,1/1,1 compound weave can be broken down as follows:

Diag. 2a

mbmmmbmbmmmbmbmmmbmbmmmbmbmmmbmbmmmb	
xxxxxx-xxxxxx-xxxxxx-xxxxxx-xxxxxx-xxxxxx	a
-x---x-x---x-x---x-x---x-x---x-x---	b
xxx-xxxxxx-xxxxxx-xxxxxx-xxxxxx-xxxxxx-x	c
-x-x---x-x---x-x---x-x---x-x---x-x-	d

Again a minimum of two warp binding sequences are possible:

Diag. 2b

x	x	x	x	x	x	i	(b; heddle)
	x		x		x	ii	(b; heddle)
x	x	x	x	x	x	iii	(m; rod)
	x		x		x	iv	(m; rod)

or

Diag. 2b

x	x	x	x	x	x	i	(b; heddle)
	x		x		x	ii	(b; heddle)
x	x	x	x	x	x	iii	(m; rod)
	x		x		x	iv	(m; rod)
	x		x		x	v	(m; rod)
x	x	x	x	x	x	vi	(m; rod)

In both cases the (a) diagrams represent the use of one heddle plus one rod, while the (b) diagrams represent the use of heddles and rods used in combination. In both of the examples given above, it is possible to produce the basic weave type (tabby weave in the first case, a twill weave in the second), using a minimum of four heddles and rods. It would also seem likely in both cases that two heddles had been used to control the binder warp ends, and then two (or more) rods were manipulated to produce the pattern.

9.4.8 The Use of Treadles: The modern system of pattern drafting which is used by CIETA, includes the use of foot-treadling drafts [101]. Such a system, however, ^{presupposes} ~~pre-supposes~~ that the cloth under examination was woven on a loom which actually used foot-operated treadles. A number of authors have also stated that foot-operated treadle looms were in use in the Near East by the mid-first millennium [102]. Yet, there would appear to be no visual, documentary, or actual evidence to suggest that treadles had been in use in the Near East in the early centuries of the first millennium A.D. (or prior to this). Nevertheless, it is easier to use foot-treadles in order to change the heddles as it allows both hands to be free in order to weave the cloth.

If the hypothetical loom suitable for weaving compound weave textiles had foot-treadles, as was suggested by Crowfoot and Griffiths, then one of the questions which is raised is whether the weavers used treadle-pits or not (Crowfoot and Griffiths, 1939, 46). Such pits have been used by weavers throughout the Near and Far East in order to place the level of the treadles well below the main frame of the loom, thus making it easier to raise and lower the heddles when changing the weaving shed. It should be stressed, however, that although many looms use pits, such pits are not ubiquitous to the use of a treadle loom [103]. The 'usual' example given to illustrate the early existence and use of weaving pits in Egypt are those which were identified by Winlock at the Egyptian monastic site of Epiphanius (site plan 11; Winlock and Crum, 1926, 68-69). Winlock excavated a series of eight brick-lined pits which ranged in length from 125 to 145 cm and in width from 50 to 75 cm. In the pits there were narrow slots of about 20 cm in length (Winlock, 1926, 68-69). Wooden objects were found near some of the pits, but not

inside them. These items were later identified by the excavators as being weaving implements (Winlock, 1926, 70, fig. 26). It was suggested by Winlock that these pits were used as loom pits, and this idea has been reported as *de facto* by a number of writers ever since [104]. There are several points, however, which would suggest that these pits were not used in the weaving process:

(a) if, as previously discussed, a width of $\frac{1}{2}$ metre is allowed for the loom frame, then the maximum width of the pits, i.e. 75 cm, would only leave room enough for a cloth width of about 25 cm. Thus the loom would be too narrow for the production of most types of cloth from the period, except narrow braid. This point was suggested by Winlock on page 68 of *The Monastery of Epiphanius*, but on page 70 he suggested that these looms had been used to produce the linen cloth used by the monastery. Yet the widest pit is 75 cm wide, and the complete shirt which was found in Grave 8 at the monastery, had a cloth width of 125 cm (Winlock, 1926, 69, 70-71).

(b) the slot which was described as the weaver's seat is actually to one side of the pit, and not at the head as one would normally expect with a loom pit. It would seem very difficult for a weaver to sit to the side of the loom and either to weave the cloth or to manipulate the treadles.

(c) the pit size does not agree with the loom which according to Carroll may have been a treadle loom, i.e. 2.70 x 4.50 m; further difficulties would also arise if a so-called drawboy was used to work the pattern rods associated with the compound weave textiles [105]. There would appear to be no space for the boy to manoeuvre the rods.

In addition to these points there is no evidence to suggest that anything other than the simplest tabby weave textiles could actually have

been produced at the monastery. Winlock wrote that only two forms of decoration were found, the first was a blue wool stripe on a linen ground, the second was a coarse linen weave cloth which had stripes in it produced by multiple wefts, and that "These were the only types of decorative weaving found, nor were there any woolen fabrics discovered" (Winlock and Crum, 1926, 71). It would seem highly unlikely, therefore, that the so-called loom pits were actually used for looms, or, by implication, that complex weave textiles such as the wool compound weave textiles had ever been produced at Epiphanius.

If there is no actual evidence for the use of pits in connection with treadle looms, what other device could have been used to keep the weaver at the right height to use foot operated treadles? The answer could simply be a much higher seat. Such a seat, for example, was used with the Medieval treadle looms given in Figures 178, 179, or with the treadle looms which are currently being used in the Egyptian city of Akhmim [106].

9.3.5. A Hypothetical Loom

Based on all of the information given above, it is possible to build up a picture of the type of loom which (a) may have existed in Egypt during the relevant period and (b) could have produced with various modifications both the compound tabby and the compound twill forms in wool and silk.

In order to give a description of such a loom I have divided the textiles into two types: A. those pieces which are woven in a compound tabby weave and which have simple geometric designs; B. those pieces

which have been woven either in a compound tabby or twill weave, but which have freestanding geometric designs.

It would seem likely that the type of loom which was used for making the simpler forms of compound weave cloth (A. in the list given above), was a horizontal rather than a vertical loom. The horizontal loom is known to have been used in both China and Egypt, and it is easier to manipulate some form of patterning mechanism on the horizontal rather than vertical level. It can be shown from extant compound weave textiles that a loom was used which was up to two metres in width (see Table 18, the width of BM 21703). There is no evidence to show that a reed was always used with these looms. The regularity of the designs associated with a number of the compound weave textiles can be taken to suggest that weavers were taking care while threading up, rather than proving that a reed had been used. It would seem more likely that a sword beater ^{cf} ~~gs~~ some kind was used to beat in the picks. The length of the textiles given in Table 18 would indicate that either a loom of a maximum length of about three metres was in use, or as would seem more likely, the warp threads were fixed in some way and released as necessary. The method by which the warp was tensioned is still problematic. Two basic types of fixing are feasible, firstly by wrapping the warp ends around the back beam and releasing them when necessary, or secondly, by tying them to a large stone in a manner similar to that used in eighteenth century Egypt (fig. 180; this is also the method Mace was referring to when he suggested that warp-weighted looms were in use during the Pharaonic period in Egypt). In both of the methods of warp 'storage' given above, when enough cloth was woven it was wrapped around the cloth beam and more

of the warp was released. Either system, as I hope to indicate later, can be regarded as feasible.

It can be shown from the nature of the faults associated with the compound weave textiles described in this thesis that the pattern was produced by the manipulation of the warp threads. This point leads to a question concerning the nature of the patterning mechanism. It has been shown by the analysis of various compound weave textiles by writers such as Crowfoot and Griffiths, Burnham, De Jonghe and Becker, that the patterning device associated with the compound weave textiles was centred around the use of two heddles which controlled the binder and main warps, and a series of pattern rods [107]. It would seem likely that the heddles were operated by the weaver, possibly by hand at first, but later with some form of foot treading system (there is no evidence to suggest that treadle pits were used), while the pattern rods were operated by a boy or man who either followed the verbal instructions of the weaver or a pre-arranged sequence. It is apparent from the published analysis of compound weave textiles, plus my own observations, that the number of pattern rods varied according to the complexity of the design, for example, a minimum of four rods would seem to have been used to produce the simple square design associated with a compound weave textile in wool from Armant <30> (see figs. 108, 181). In this particular example, I think that two heddles were used to control the main and binder warp threads, and then two pattern rods were used to produce the design. It should be noted that combinations of heddles and rods could easily have been used.

In more complex forms, such as the compound weave textile with a bird design which is also in the Ashmolean Museum, Oxford (1888.372

<122>), it would seem likely that a minimum of six pattern rods were used (fig. 182). The repeat size is 30 brown weft threads, 30 natural weft threads, which gives a total number of 60 lats. If the pattern had been woven with combinations of pattern rods then it is possible to suggest that six rods had been used. If on the other hand there was one rod for each lat of the design then it is possible that thirty pattern rods had been used for this particular design.

A very unusual combination of weaves can be seen in a compound weave textile now in the British Museum (BM 21703 <39>), which has three different weaves: (a) the ground weave which is a 3/3 tabby weave, (b) the decorative bands in a compound tabby weave (compound tabby type 1a), and (c) the edge weave which has the warps arranged in 3 2 1 2 3 2 1 2 3 2 1 etc. (see figs. 55, 183). It has been possible to break down the basic weaves into a minimum of two heddles plus four rods. But it should be noted that these constitute the basic weave forms and not the decorative sections. As the bands have different patterns it would seem likely that the different groups of pattern rods were used to produce the designs. As the design can be found in the reverse order in other compound weave textiles with the same decoration, it would suggest that these 'extra' pattern rods were fixed, probably using loops, to the warp ends, rather than being removed after every throw.

It is possible that the type of loom used to produce the compound tabby weave textiles looked something like the loom illustrated in the early nineteenth century work *Description de l'Égypte* (fig. 184) [108]. The loom in question has a very simple frame which supports a movable back beam. The heddles are operated by two foot treadles (without a pit) which are simply made out of two pieces of wood with a pin of some kind

fixed into two pieces of wood sticking out of the ground which act as the pivot. The heddles are suspended above the warp by eight pulleys attached to a beam. In its turn the beam rests upon two large beams which appear to have been fixed to the wall behind the weaver. Although it is clear that the artist did not fully understand the operation of the loom (see for example the way in which the cloth goes into the heddles), he has illustrated a number of rods near the back beam. It should be stressed that these rods are not pattern rods as they lie inside the warp web. The presence of these rods, however, gives some indication of scale and shows the feasibility of the idea that there was enough space in this area of the loom to take pattern rods.

I think it is highly unlikely that this is the exact form of loom which was used during the Roman period to produce compound tabby weave textiles, nevertheless I feel that it was probably on the correct scale and general appearance.

In respect to more complex twill weaves and freestanding figurative (both compound twill and tabby weave forms) designs, it would seem possible that certain examples were made on the above described loom, for example, BM 21703 <39> (see fig. 183). Other examples, however, are much more complex and would have required two heddles, plus hundreds of pattern rods in order to produce the design. This point was shown by the work of De Jonghe when he examined a silk of the Zandian form which is now in the Gruuthusemuseum, Bruges (De Jonghe, 1985, 279-288). According to De Jonghe, it would have taken between 110 and 120 lats which were manipulated by about 50 *trekkoorden* (draw cords) to have produced one repeat (De Jonghe, 1985, 287). This number of lats would have necessitated a similar number of pattern rods. It would seem very

unlikely, however, that a loom of the type suggested above could have been easily manageable with so many pattern rods. It would seem more feasible to suggest, as De Jonghe does by the use of the term *trekkoorden*, that the silk was made on a loom with a more complex form of mechanical patterning device, i.e. some form of drawloom (De Jonghe, 1985, 288). As with the loom mentioned above, it would seem likely that this early form of drawloom was operated by the weaver, plus another, i.e. the drawboy. One point which is not clear, however, is whether the boy sat to one side of the loom, or whether, as in Mamluk period drawlooms in Egypt, he actually sat over the loom.

King has described a number of compound weave silks which were found in a variety of church reliquaries etc., throughout Europe (King, 1981). According to King's account, designs can be found which are both at right angles to the selvages and parallel to the selvages, which would indicate a greater degree of freedom in the manipulation of the warp threads during the production of the design, but the fact that a design could be repeated in a mirror image would also suggest that a strict control was kept over the order in which the design repeats were woven.

In conclusion therefore I would like to suggest that two basic types of horizontal looms were required to produce the compound weave textiles referred to in this thesis, i.e. a simpler form used to produce the geometric designs (normally in a tabby weave), and a more mechanical complex version for those with freestanding or figurative designs (either in a compound tabby or twill weave).

9.4. Modern Types of Hand Looms Used for Weaving Compound Weave Textiles

One of the points which Crowfoot raised in the letters referred to at the beginning of this chapter, concerned the question whether any looms of a suitable type to produce compound weave textiles have survived in some remote corner of the world. The answer to this question is affirmative. Indeed, not only has a suitable loom survived in the Near East, but there are two distinct loom types currently being used to produce compound weave cloth. The looms in question are the pattern-rod loom with foot-treadle which is to be found at the Egyptian city of Akhmim and the vertical *zilu* loom of Iran. In addition to these looms, there is a form of horizontal warp-weighted loom which is currently being used in Syria and Iran which has certain striking similarities to the loom actually used at Akhmim and to the hypothetical loom described previously for the production of compound twill weave textiles. As a result of these similarities, I feel it is necessary to give a brief description of the latter loom type. It should be stressed, however, that as yet I have found no proof to show that this form of loom is currently being used to produce compound weave cloth.

Brief reference has already been made in this chapter to a horizontal warp-weighted loom. A detail which was not given is that this loom form is still in use in a remote part of Egypt, namely, at the Upper Egyptian city of Akhmim (Map 1). One point which makes the survival of this loom particularly interesting is the fact that Akhmim is noted in Egypt for the production of *nassig* (النسيج) weave cloth, i.e. weft-faced compound tabby weave cloth (type 1a). The loom which is used to produce this type of material may be regarded as a likely descendant of the hypothetical loom type described previously for the production of simple designs, and in many respects it includes certain of the

modifications which have been indicated, for example, the addition of treadles and pattern rods. So perhaps the loom, should not be seen as a relative, albeit a poor one, of the European drawloom, but rather as a separate development which answered the specific needs of the weavers. It could be argued that there was no necessity for Near Eastern weavers to produce a French style drawloom as they did not weave the same style of patterns. The question should therefore be posed as to why, as so often happens, the two loom forms need to be compared?

The looms used in the Upper Egyptian city of Akhmim are apparently regarded by the local weavers as being the "traditional" looms of the city. According to André Azzam, who is one of the staff members at the headquarters of the *Association Chrétienne de la Haute-Égypte*, and who is partially responsible for the running of the Akhmim centre, this form of loom has "always been used in Akhmim" [109]. The statement was later modified when he commented that various attempts have been made by members of the Centre's staff to trace the history of the loom within the city, but that the research had been frustrated by the lack of local archival material and by the fact that many of the people questioned had very little concept of time in the Western sense. A. Azzam therefore felt that "certainly within living memory" was a better guide to how long the loom had been in use, i.e. at least to the generation of grandparents (between 75 and 100 years).

The loom in question is made up of a frame with a reed, two heddles (or more), worked by foot treadles with no foot pit (fig. 185). Heddles were used to control the binder (-) and main warps (x, o). Normally, only two heddles are used with the simpler, geometric patterns,

however, four heddles may be used with the more complex, figurative forms (for example, the "Akhmim bird" design).

The warp passes over a beam and is then suspended over another beam set into the ceiling. The warp is tensioned using large stones of an approximately similar weight (fig. 185).

The pattern is produced by using laze rods which are raised in a set order. Between ten and twenty-four rods are used per design (see diagram 3). The first set of rods are known as the yellows (y), the second set as the whites (w). The rods are lifted in the following order: number 1 - yellow; number 2 - white; number 3 - yellow; number 4 - white, etc. The threading system of the loom is such that no. 2 (white) is the exact opposite of no. 1 (yellow) (diag. 4; the position of the binder warps is Diag. 3

no.	2	4	6	8	10	12	14	16	18	20	22	24	
	x	x	x	x	x	x	x	x	x	x	x	x	white
	o	o	o	o	o	o	o	o	o	o	o	o	yellow
no.	1	3	5	7	9	11	13	15	17	19	21	23	

indicated by the symbol -). The system then gives the basic structure of the weft-faced compound tabby weave. The pattern-rods are raised by the *gabbad* (جباب) or 'drawboy' who sits next to the loom on a small box or stool. His function is to pull the strings attached to the rods in the correct order. The rods are drawn in a set order of 1 2 3 4 5 6, etc.

Diag. 4

o-o o-o o-o o-o o-o o-	-	-	-		no. 1 - yellow
-	-	-	-	-x x-x x-x x-x x-x	no. 2 - white

Thus no complex calling out of the numbers is required, nor do weaving songs with the numbers included in the words or rhythms prove to be necessary. Traditionally, the *gabbad* was an apprentice weaver, but at the Akhmim Centre, the roles of the weaver and *gabbad* are interchangeable.

The weft is passed through the warp sheds using a pre-filled shuttle. The shuttles used on the looms are traditionally made of lemon wood, as the soft, fruit wood tends to absorb the shock of being dropped on the floor more easily than a hard wood shuttle [110].

So it would seem reasonable to suggest that the Akhmim loom is at least one hundred years old, and probably much older. As yet, however, I have been unable to find out where exactly this type of loom was developed, or if it is not actually indigenous to Egypt, when and why it was introduced into Egypt and Akhmim.

9.4.2. The *Zilu* Loom of Iran

In addition to the looms which are associated with Egyptian wool, silk and cotton compound weave textiles, consideration also has to be given to the *zilu* loom of Iran. As previously referred to in Chapter 5 on the compound weave textiles from the Sasanian Empire, there was and is known a form of compound weave cloth called *zilu* which is produced on a large vertical loom (fig. 186). The size of this type of loom appears to vary, but some were capable of producing floor-coverings which are up to ten metres in width (Beattie, 1981, 169).

The following description of the appearance and the method by which a *zilu* loom is operated has been taken from E. Wulff, *The Traditional Crafts of Persia*. Wulff was writing during the early 1960's, but the

fact that this type of weaving still continues has been confirmed by M. Beattie who was writing about a trip to Iran in 1978 (Beattie, 1981, 169). In addition to this point Wulff was writing about the then current methods used to produce *zilu* cloth. On the basis of the fact that structure and appearance of the modern examples is so similar to a large carpet from the fourteenth century, it would seem highly unlikely that the method of production has actually varied to any great extent over the centuries (111).

The *zilu* loom is made up of two vertical columns which carry a top or warp beam, and a lower or cloth beam. The beams are kept in place by wooden pegs (Wulff, 1966, 210). When about 45 cm of cloth has been woven, the pegs are removed and the beams are rotated by using long wooden levers, thus widening the cloth onto the cloth beam and introducing more warp into the weaving web. The warp threads are divided into two, alternating colours, for example, the purely nominal colours of orange and purple. It should be noted, however, that according to Beattie, the warp threads on all the *zilu* cloth which she has examined are white, so perhaps time and regional variations in the systems which were used to thread up these looms did exist (Beattie, 1981, 171). The orange warp threads are divided into two, and the threads are then passed through the loops on two heddle rods; threads A going to heddle rod 1; threads B to rod 2. The heddles are subsequently suspended by ropes to the ceiling of the workshop. The purple threads are then divided according to the desired pattern and connected to a draw harness by means of short draw-strings. According to Wulff, between forty and sixty strings are sufficient for most designs (Wulff, 1966, 211).

During the weaving of the ordinary cloth binding, the heddle rods are operated by two weavers (they stand at each end of the loom), who move a wooden lever which slides up or down behind a heavy horizontal beam attached to the wall behind them. These levers are connected to the heddle rods via a pair of ropes. After the first shed has been opened, the weft is passed by one of the weavers to his companion. Instead of a shuttle, however, they use an elongated ball of thread which has been wound around a stick. After the two weavers have released the heddles, they beat the weft in with a beater comb.

In order to create a pattern within the weft, a heddle is lifted and then groups of strings which are attached to the figure harness are pulled, starting at the first group in the sequence. The groups of 'pattern loops' are separated from each other by means of 'drawloops' which are similar to those on a drawloom, and once a 'drawloop' has been used it is slipped onto a separate string which in turn is attached to a strong wooden hook. The hooks are also fastened to the beam behind the weavers by means of ropes. Apparently for less complicated patterns the weavers use fewer 'pattern-loops' or cross-harness strings and no 'drawloops' are necessary for separating the strings which are required by the weavers, as they tend to know by heart which ones need to be pulled for the next step in the pattern.

According to Wulff, it is normal for the weavers to cut the weft throws about five centimetres outside the selvedge and to weave the extra length into the selvedge itself, thus making it stronger than the rest of the cloth (Wulff, 1966, 211). In order to keep the selvedge of the *zilu* even, a weaver's temple is used at regular intervals. A temple is a very simple device which is used by weavers throughout the world in order

to keep the cloth width even [112]. It is basically a clip with sharp teeth which is fastened at one side to the frame of the loom and on the other side to the material which has just been woven.

9.4.3. A Near Eastern Drawloom

At present I have no evidence to suggest that this form of loom is currently being used to produce compound weave cloth. Nevertheless, I decided to include the loom in this section for two reasons. Firstly, the Egyptian historian M. A. A. Marzouk gave a description of a fourteenth century Egyptian loom which would appear to be similar to this type of loom (Marzouk, 1948-49, 131). Secondly, because the basic concept of the Akhmim pattern rod loom described ^{previously} ~~previously~~ ^{also} is also similar to the so-called Near Eastern drawloom. For example, both of the looms are horizontal rather than vertical forms, and the necessary tension on the warp threads is achieved by tying the warp ends to a series of weights (Becker, 1987, 255-261). There is, however, one very important difference between the Near Eastern and Akhmim looms, namely, the way in which the pattern repeats are achieved.

The description of the Egyptian drawloom which Marzouk refers to comes from a work by Al-Nuwayri called the *Al-Allmān bil i'lām fimā jarat bihi al-ankām wal-umūr al maqdiya fi wāqi 'at al Iskandariya* [113]. According to the translation given by Marzouk, As-Sultan al-Ashraf Nasir-ad-Din Sha'ban (ca. A.D. 1363-1376; A.H. 764/778) was visiting an Alexandrian weaving workshop and inspected every aspect of the work:

The Sultan roamed around the looms, observing them and putting his head below them to see their lower parts and enjoying himself by looking at the weavers while they were working and throwing their shuttles to and fro. He raised his head up to see the tops of the looms where the "draw-

boys" raised up and lowered the warp-threads; he observed how the motives [sic] of birds, geometrical designs and other patterns were produced by these threads that went up and came down till each bird and other motives [sic] were completed" (Marzouk, 1948-49, 131).

It would appear from this description that drawlooms were actually in operation in Egypt by the Mamluk period (A.D. 1250-1517) and so it can be speculated that at least some of the compound weave textiles mentioned in this thesis may have been produced on this type of loom. It should be noted, however, that as these looms were in the state workshops and were producing goods for the sultan, it would seem more likely that the weavers were producing silk textiles rather than cloth made out of wool.

It is clear from the description given above that the pattern mechanism associated with the Mamluk loom consisted of a figure-harness or draw-harness which was controlled by a 'drawboy' seated on a frame above the loom. The same mechanism is also associated with the 'modern' Iranian drawloom (fig. 187). In this loom the draw-harness consists of a number of vertical drawstrings which are connected at the top to a wooden support near the ceiling of the workshop. At the lower end, each of the drawstrings are connected to a horizontal gut string in a cross-harness (Wulff, 1966, 211).

Each of the drawstrings needed to produce one throw or lat of a pattern are attached to one cross-harness, thus reducing the number of vertical drawstrings needed for one pattern to a fraction of the number of warp threads to be lifted or needed for a pattern. To weave several pattern repeats across the fabric with this harness, it is only necessary to lift one cross gut string and with it comes the requisite number of warp ends, each of the vertical drawstrings continues below the warp

carrying at its end a metal weight (lingo) which draws the harness back into its original position when released (Wulff, 1966, 211).

When the weaver sets up the draw-harness for a specific design he places a circular loop around all the vertical drawstrings that have to be lifted for one throw, each of the throws/drawstrings is then looped in turn. A drawboy sits on a board on top of the drawloom and pulls the loops in the order required to produce the pattern.

When all the loops have been used, one full figure pattern is completed. In order to repeat the pattern all the loops have to be placed into the position from which the boy started. If, on the other hand, a mirror image of the pattern is required, then the drawboy operates the loops in the reverse order, the last loop becoming the first, etc.

9.4.4. A Comparison between Akhmim and *Zilu* Compound Weave Cloth

Both the Akhmim and the *zilu* looms are non drawloom forms, which are used to produce rigid geometrical designs with a small repeat size in comparison with the width of the cloth. The Syrian drawloom on the other hand is capable of producing a wide range of geometric and figurative patterns with much fewer limitations in the size of either the horizontal or vertical repeats. It would seem to be of interest to compare the appearance and structure of compound weave cloth produced on the simpler forms of handloom, namely the Akhmim and the *zilu* looms.

The main differences between the cloth produced on these two loom types can be summarised as follows:

(A) the width of the Akhmim cloth is limited to the size of the loom frame, i.e. a cloth width of between 1-1½ metres would seem to be normal.

On the other hand, because the *zilu* loom is basically only a rectangular frame which is set vertically, fewer restrictions, size-wise, are placed upon it. According to Beattie, it was not unknown to have compound weave cloth which was up to ten metres in width woven on this form of loom (width being selvedge to selvedge, rather than taking the greatest measurement as being the length; Beattie, 1981, 169).

(B) The selvedges on a piece of Akhmim cloth are along its longest side, while on *zilu* cloth, they lie on its shortest sides.

(C) The designs and colours associated with Akhmim cloth are usually woven at right angles to the selvedge. Similarly, the designs of the *zilu* cloth are woven at right angles to the selvedges, but the designs can be built up either vertically or horizontally, although they are woven parallel to the selvedges. The colours associated with the *zilu* cloth run at right angles to the cloth, but they cannot be built up in a parallel manner to the selvedges as can be done with the designs. The use of only two colours, i.e. red or blue with natural, and red with green or blue, would, however, tend to obscure this point.

(D) There appears to be an important difference in the size of pattern which can be produced on the two looms. In general it would appear that the Akhmim loom is only capable, or perhaps more accurately, is only used to produce relatively small scale geometric designs. On the other hand, the *zilu* loom is used to produce much larger scale, geometric designs.

(E) In addition to these points it can also be shown from modern examples that the weavers at Akhmim use very fine Z-ply cotton for the warps, while the weavers of *zilu* use very coarse Z-ply cotton (Beattie, 1981, 171). The difference in the type of warp used is probably due to the nature of the loom and the intended eventual use of the cloth.

Akhmim cloth tends to be used for curtains, bed spreads, etc. On the other hand *zilu* cloth is generally used in places where it would be subjected to a considerable degree of wear, for example, as floor coverings in mosques [114].

F. It was previously noted in this chapter that textiles with small scale geometric patterns tend to have a compound weave area plus other areas of weave where the warp threads are arranged in various orders, for example, 1 2 3 2 1 2 3 2 1 2 3, etc. This arrangement of the warp threads appears to be due to the pattern being produced using two heddles and two pattern rods

In the case of material woven in the Akhmim and *zilu* looms, if only a fragment of cloth without a selvedge is available it is likely that difficulties may occur in determining which form of loom had been used to weave the textile.

Using the information which has been presented above, it is possible to reach a number of conclusions concerning the type of loom, or looms, which were used to produce compound weave textiles. If the definition given previously by Charleston is used, namely, a drawloom is a loom which has a shedding device which is separate from the patterning device, then it would seem reasonable to suggest that an Egyptian, or perhaps more accurately, a Near Eastern version of a loom was developed which could be classed as a drawloom. A more acceptable suggestion would seem to be the one presented by Burnham and later by De Jonghe, namely that the Han compound weavers and their Near Eastern counterparts used a type of pattern loom to produce compound weave textiles.

The concept suggested by various people that there was always a 'drawboy' would appear to be correct, but Geijer and other scholars would

appear to be incorrect in implying that the boy inevitably sat over the loom. For example, in the case of the Akhmim loom, which can be seen as the traditional compound loom in Egypt, the boy sat on a stool by the side of the loom. It should, however, be noted that in the descriptions of the Egyptian drawloom from the Mamluk period and the modern Syrian drawlooms, men or boys do actually sit over the loom.

It would seem, reasonable, therefore to suggest that the origins of the Akhmim loom should be sought in the pattern-loom which produced the late Roman and Early Islamic compound weave textiles found in Egypt. On the other hand the origins of the loom capable of producing the complex repeats associated with some of the silk compound weave twills, should perhaps be sought in the 'Iranian' drawloom. Finally, a number of textiles found in Egypt which are of the *zilu* type, could have been woven on either the Akhmim form of loom, or, as would seem more likely, a loom similar to the *zilu* loom which is used in modern Iran.

Footnotes

- 1 Unfortunately, shortly after these letters were written Mr. Charleston gave up his work on textiles in order to follow his interests in Islamic glass. He later became the Keeper of the Glass Department, the Victoria and Albert Museum. In 1985, R. J. Charleston gave me his notes and correspondence concerning his early interest in textiles. It is hoped that these can be made available in the near future for use by other textile researchers. I should like at this point to thank Mr. Charleston and Miss E. Crowfoot, for allowing me to quote from these letters.
- 2 Flanagan (1919), 167-172.
- 3 Pfister and Bellinger (1945), 3.
- 4 Wilson (1933), 8, 13.
- 5 Flanagan (1919), 167-172. According to E. Crowfoot, Lee of Birkenhead was probably T. D. Lee, the then curator of the Liverpool Archaeological Museum (later the Merseyside Museum).
- 6 Pfister and Bellinger (1945), 3, 53.
- 7 Crowfoot and Griffiths (1939), 40-47.
- 8 Procopius, *The History of the Wars*, XVII,1-7. See Chapter 8.
- 9 See Wulff (1966), 210-211; Picton and Mack (1979), figs. 54-55.
- 10 See for example De Jonghe (1985), 12, fig. 4.
- 11 Geijer (1979), 97; Koob (1977), 231-241; Becker (1987), 251-274.
- 12 CIETA: *Centre International d'étude des Textiles Anciens*, Lyons.
- 13 See CIETA (1964); Burnham (1980). The entries in Burnham's book have been based on CIETA (1964).

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- 14 The Jacquard loom was in operation in France by 1804. For a brief history of the Jacquard loom, see Rothstein (1977), 282-304; For a reasonably simple description of how a drawloom works, see Koob (1977), 231-241; Becker (1987), 274-278.
- 15 See for example, Sylwan (1949), 168, fig. 27a.
- 16 Vollmer (1975), 170-174; Vollmer (1977b), 343-354.
- 17 Geijer (1979), II, figs. 15, 16; Casalis and Guadalup (1980), fig. I, XVIII.
- 18 See *Kaogu Xuebao* (1956), 1, 43f; Shizhaishan (1959), vol. 2, pl. 98, fig. 1; Vollmer (1977b), 343.
- 19 Shizhaishan (1959), vol. 2, pl. 98, fig. 1; Vollmer (1977a), 79. Vollmer (1977a) and (1977b) are very similar. More details, however, are given in (1977a), concerning the finds, but the photographs of the lid with weavers are better in (1977b).
- 20 Vollmer (1977a), figs. 2, 3. See also Watson (1973), 114, no. 176.
- 21 Xai (1972), 17-20, see also Becker and Wagner (1981), figs. 1-3; Becker (1987), 20-25.
- 22 Chavannes (1893), xi, pl. III; Sylwan (1949), 166; Geijer (1979), 34, II, fig. 15.
- 23 Becker and Wagner (1981), 22; Becker (1978), 22-23.
- 24 Riboud (1977), 254; Becker (1987), 27-28.
- 25 See Shih (1977), 314-317; also Chapter 8.
- 26 Burnham (1965), 31; Becker and Wagner (1981), 22.
- 27 See for example Sylwan (1949), 69, pl. 27a.
- 28 Geijer (1979), 103, vi; Casalis and Guadalup (1980), XX. See also Kuhn (1977); Becker (1987), 261-267.

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- 29 Shih (1977), 317-319. De Jonghe's views are confirmed by Becker (1987, 261).
- 30 See for example, Sylwan (1949), 95-96. Also Agrawala (1953), 75-94.
- 31 Stein (1921); Andrews (1920) 3-10, 71-77, 147-152; Sylwan (1949).
- 32 Petrie (1917), 54, pl. LXVI, nos. 148-149. Also Burnham (1980), 28.
- 33 Sømmarstrom (1958), vol. 2, no. K. 13799, 407
- 34 Sømmarstrom (1958), vol. 1, pl. 40:2.
- 35 The panel is in the Dept. of Eastern Antiquities, the British Museum.
- 36 Stein (1921), 252, no. NXXII i 001, pl. XXVIII.
- 37 Stein (1907), 230. See also Diakonva (1960), 229-231; Rowland (nd), pl. 132.
- 38 I should like to thank both J. Allgrove and J. Vollmer for their very helpful comments.
- 39 O'Neale (1936), 420; Stein (1907), 375-376, 397; for example no. N.VII.3.
- 40 The cotton was found in area F8d-32; Eastwood (in pressa).
- 41 Wheeler (1968), 85; Andrews (1977), 357.
- 42 See for example, Birdwood (1880), 261; Mukharji (1888), 331; Yusuf Ali (1900), 10-25, 117-122; Swarup (1968), 213 and Mehta (1970), 3.
- 43 Mehta (1970), 3; Sararup (1968), 214.
- 44 The terms listed by Gopal are: *kuseya*, *patrorna*, *cinamsuka*, *amsuka*, *netra*, *lalatantuja*, *krmiraga*, *jatipattika*, *vada*, and *tarpya* (Gopal, 1961, 61-69).
- 45 Irwin (1973), 19-25; Haags Gemeentemuseum (nd), 29-37.
- 46 Mensinga (1984), 60-67 is very similar to an article by the same person in Haags Gemeentemuseum (nd),

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- 47 Indian Office Library, London, accession number: Add. Or. 1729.
Also ~~Haags~~ Gemeentemuseum (n.d.), 24, fig. 30; Irwin (1973), fig. 3.
- 48 Irwin (1973), 2; van Eijkern-Balkenstein (1984), 13-14.
- 49 Montell (1934); Innes (1977), 35-58; Ronge (1980).
- 50 Montell (1934), figs. 1-7; Gittinger (1977), 54-68.
- 51 See for example, a fourth century B.C. Boeotian black figure skyphos from Thebes which is now on display in the Ashmolean Museum, Oxford (acc. no. G.249 V262); Roth (1913), 34-35, figs. 29-31.
- 52 See Kardara (1961), 261-266; Van der Kooij (1987), 100; Farag (1983), 53-57.
- 53 For example, Picton and Mack (1972) and Dunsmore (1983).
- 54 Brunton and Caton-Thompson (1928), 6, 51, 54, no. 70K, pl. XLVIII; Hall (1986), 15-16. The bowl is now in the Petrie Museum, London; accession number U.C. 9547.
- 55 See also Hall (1986), 16.
- 56 Brunton and Caton-Thompson (1928), 54. See also Hall (1986), 16.
- 57 Newberry (1893), 9-72; (1894), 41-62; Davies (1913), 35, pl. XXXVII.
- 58 See also Roth (1913), 3-7.
- 59 Newberry (1893), vol. 1, 37-72, 68, pl. XXIX.
- 60 JE 46723, The Egyptian Museum, Cairo. Crowfoot and Roth (1921), 96-101; Winlock (1955), 29-33, 88-89.
- 61 See Crowfoot (1945), 36-46; Picton and Mack (1979), fig. 45 and 47.
- 62 Picton and Mack (1979), figs. 45 and 47.
- 63 Davies (1929), fig. 1a. See also Davies (1933), 38.
- 64 The Hyksos period was from 1640-1532 B.C. See Hall (1986), 15; Geijer (1979), 24 and Needler (1977), 238.
- 65 Crowfoot (1941), 141-151; Van der Kooij (1987), 100.

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- 66 Peet and Woolley (1923), 60-61. The question of the type of looms used as 'Amarna will be discussed in greater detail in Vogelsang-Eastwood (forthcoming).
- 67 Peet and Woolley (1923), 78, pl. XVI, Houses 7, 8 and 9.
- 68 Cairo nos. 335 and 569. See Riefstahl (1944), 20-21; Hall (1986), fig. 34.
- 69 A.D. 98-117; Picard-Schmitter (1965), 296-321; Wild (1970), 69., figs. XIa. See also Johl (1917), fig. 32 for a gravestone of Severa Seleuciana, Rome (A.D. 279) which depicts part of a loom. In addition a badly burnt loom was found at Herculaneum, but it would appear to have been incorrectly reconstructed, see Maiuri (1958), 463, fig. 420; Wild (1970), 70.
- 70 Bendinelli (1921), 169, fig. 1; Wild (1970), 69. According to Carroll, this painting has now virtually vanished (Carroll, 1985, 169, note 3).
- 71 Codex Vaticanus, 3225; see De Wit (1959), 151, 205, fig. 22.2; Roth (1918), fig. 191.
- 72 Brown and Rachid (1985), 14, 86-87, see also pl. 11.
- 73 Hoffmann (1974), 56-80; Van der Kooij (1987), 100.
- 74 Roth (1913), 21. So far I have been unable to find any published descriptions of the Kahun loom weights to which Mace refers.
- 75 At one point Wild suggested that *tarsian* cloth in Egypt was been produced on a warp-weighted loom. This view was later refuted in favour of the fixed two-beam loom. (Wild, 1969, 816; 1987, 465).
- 76 Jenkins and Williams (1985), 411-418; Crowfoot and Roth (1917), 7-20.

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- 77 See for example, Flanagan (1919), 167-172; Wilson (1933), 8, 13 and King (1981), 95.
- 78 For example, Burnham (1965), Riboud (1977). See also Chapter 4.
- 79 For example, Crowfoot and Griffiths (1939); De Jonghe and Tavernier (1978); De Jonghe (1985). Becker gives a general outline of the development of compound weave textiles from China to the Near East which is based on traditional ideas (Becker, 1987).
- 80 For example, De Jonghe and Tavernier (1977/78).
- 81 For the Qau el Kebir textiles (VA T.239.1923 <84>) see Crowfoot and Griffiths (1939), 42-44. For the Qustul textile <165, 166>, see Mayer-Thurman and Williams (1979), 97, no. 83. For the Trier silks see De Jonghe (1977/78), 145-174.
- 82 BM 21703 <39>, Lamm and Charleston (1939), 194, 196, fig. I, II.
- 83 There are a number of different measurements associated with the 'cubit', for example the Greek cubit was 43.72 cm long and the Roman cubit was 41.92 cm. The Egyptian Royal cubit was 49.41 cm, while the standard or 'short' cubit was 42.52 cm. The use of different cubit measurements has caused a considerable difference in the interpretation of the loom measurements, for example, Wild uses a cubit of about 30 cm, while Carroll uses a cubit of 45 cm (Wild, 1970, 72; Carroll, 1985, 173). I have used a cubit measurement of 42 cm, which was the cubit length used during the Roman period in Egypt. See also (Gillings, 1972, 207).
- 84 According to the label attached to a piece of folded flax cloth now on display in the British Museum, the cloth was 69' long and 4' 6" wide (BM 6639). The warp length is therefore about 22 metres long.
- 85 See Chapter 11.

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- 86 Winlock and Crum (1926), vol. II, 267, no. 352.
- 87 See for example, Hoffmann (1974), 151-182.
- 88 See for example, Mayer-Thurman and Williams (1979), 40-41; Bergman (1975), 23-39, and Caneva (1987).
- 89 See for example, Louvre Museum no: AF 5983 <139> and Lyons Textile Museum, no: 26.812/19 <188> and 26.812/20 <191>.
- 90 De Jonghe, pers. comm.
- 91 Two of the reeds are now in the Museum of the Liverpool Institute of Archaeology. The third reed is in the Cairo Museum (Roth, 1951, 24-26).
- 92 Xia (1972), 20-24; Becker and Wagner (1981), 22. See also comments by Wild (1987), 463.
- 93 Mayer-Thurman and Williams (1979), 71, 97, nos 33 and 83.
- 94 MG 1.116 <188>, MG 1.117 <191>. De Jonghe, pers, comm.
- 95 Qau el Kebir (VA T.239.1923 <84>); Crowfoot and Griffiths (1939), 40-42.
- 96 See for example, Burnham (1967), 248; Riboud (1978), 6. See also De Jonghe (1985); Becker (1987).
- 97 See footnote 96.
- 98 See footnote 96.
- 99 See also Victoria and Albert Museum, accession number VA T.192.1976 <116> and GMV-E <172>. Becker (1987), 88.
- 100 Burnham (1967), 248; Becker and Wagner (1981), 24; De Jonghe (1985), 9-15; Becker (1987), 86-89.
- 101 See for example, CIETA (1979), 24, 27.
- 102 For example, Usher (1954), 258; Carroll (1985), 172-173.
- 103 For example, Usher (1954), 258-259.

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- 104 Winlock and Crum (1936), 68-71; Usher (1954), 258-259.
- 105 P.Oxy. 1715. Carroll (1985), 171, 173.
- 106 See Chapter 7; also footnote 109.
- 107 See for example, Crowfoot and Griffiths (1939); De Jonghe (1985); Becker (1987).
- 108 My thanks to H. Whitehouse for providing me with the loom illustrations which are given in Figures 180 and 184.
- 109 Unless otherwise stated the following information concerning the work of the Akhmim centre has been provided by A. Azzam. I should like to thank A. Azzam at this point for his patience in answering all my questions.
- 110 According to A. Azzam only two people in Egypt appear to be still making weaving shuttles in lemon wood, and it is becoming more difficult to find a source of the wood. Apparently, lemon trees are being cut down or simply not being replaced when they die, in order to plant more profitable, and easier to maintain, orange groves.
- 111 Wulff (1966), 21-211; Wilber (1981), 309; Beattie (1981), 169-174.
- 112 See for example, Burnham (1980) 150; Roth (1950, 48-49, figs. 91a-b; Picton and Mack (1979), fig. 53.
- 113 My thanks to A. Schippers, Dept. of Arabic Studies, Amsterdam University for checking the Arabic text given by Marzouk. The term used in the text to describe the loom was *naul* (نُول). The word for "drawboy" is *sayyalun* (شَالِب), which is the plural of *sayya* "porter" or "carrier"; the associated verb is *sala* (شَالَا), "to raise".
-الكاء
- 114 Wilber (1981), 309. See Chapter 11.

10. SOME ICONOGRAPHICAL DETAILS CONCERNING THE COMPOUND WEAVE TEXTILES INCLUDED IN THE CATALOGUE

10.1. Introduction

In June, 1940, Grace Crowfoot wrote a letter to R. J. Charleston which referred to his recent article, written with C. J. Lamm, concerning compound weave textiles [1]. G. Crowfoot remarked that she had not realised that there was such a variety of forms associated with this type of cloth: "You and Mr C Lamm had made a very nice collection of examples of the two faced weaves in that article; I did not know there was so much variety as is shown by your two Stockholm examples Pl VII.A.B." [2].

The range of designs represented by the compound weave textiles in this thesis is, I suspect, considerably greater than either Crowfoot or Charleston realised.

In this chapter I intend to discuss the designs associated specifically with the weft-faced compound weave textiles in wool, as these represent the main theme of the thesis. Particular reference will be made to those examples which derive from known archaeological sites. It would be impossible, however, to discuss these pieces in isolation and without making any reference to silk compound weave textiles; other forms of cloth, or indeed to objects made out of materials such as wood, ivory, metal, glass, etc. How the designs may have influenced the function and use of the compound weave textiles (or indeed the other way around), will be discussed in the next chapter, which will deal with the uses of weft-faced compound weave textiles.

In order to discuss the designs, this chapter has been divided into three: (10.2.) a brief account concerning the transmission of designs

during the Roman and Early Islamic periods, (10.3.) the commissioning of textile designs and (10.4.) the range of designs associated with the compound weave textiles referred to in this thesis. The last section has been sub-divided into: (a) non-representational designs (i.e. purely geometric forms and stylised floral motifs), and (b) representational designs (i.e. those which include human figures, animals, birds etc.). There are further sub-divisions of these groups, but these will be discussed in greater detail at the beginning of the relevant sections.

It should be noted at this point that greater stress has been laid upon the transmission of designs, etc, in the Roman rather than in the Sasanian Empire. This is simply due to the availability of primary and secondary sources. It would seem likely, however, that many of the general comments made below could equally be applied to the designs associated with either of these empires.

10.2. The Transmission of Designs during the Roman and Early Islamic Periods in the Near East

While making a study of the designs associated with the compound weave textiles which have been included in this thesis, it has been necessary to be aware of certain factors, not least of which are the length of time and sheer distances involved in the terms "Roman", "Early Islamic" and "Near East" respectively [3].

Thus one of the elements which has to be taken into account when discussing the transmission of designs during the periods in question concerns the sheer size of the area under consideration and the difficulties involved in travelling from one region to another (Henig, 1983, 117). Yet it is also clear that motifs did become popular within

one region and that they were later used in other regions. Indeed in certain cases they continued to be a popular form for several centuries. A good example of this point would seem to be the "Four Seasons" theme which, according to the art historian K. D. Dunbabin was both a well-known and well-worn form (Dunbabin, 1978, 119).

Stylised representations of spring, summer, autumn and winter, for example, in the form of female personifications of the four seasons, or as representations of the months, have been found in numerous mosaics from the Eastern Mediterranean region. Notable examples include the third to fourth century Seasons mosaic at Antioch, ca. A.D. 260-280, Venus and the Seasons mosaic at El Djem, Tunisia, and finally, the second century A.D. Seasons and Nilotic pavement at Zliten, Tripoli, Libya [4]. In addition to these Mediterranean examples, other Seasons mosaics have been found in both Southern and Northern Europe [5]. Of equal interest, however, is the fact that the Seasons theme was not solely restricted to one medium. It can also be found on other contemporary objects such as wall-paintings, embroideries, carvings, ivories, sarcophagi, etc. [6]

One of the questions which has to be raised in connection with the widespread use of certain designs, is the manner in which the designs were transferred from one region to another, and from one medium to another. Various possibilities suggest themselves, for example, secular, oral and written traditions; local traditional art forms; the existence of itinerant artists; the movement of master craftsmen from one region to another who taught or worked with local artists; the movement of slaves who were trained in various decorative techniques; the transportation of decorative objects, i.e. mosaics, pottery, textiles, etc., from one area to another; the influence of official art forms, notably, coins,

portraits of Senate members and the imperial family, as well as other forms of official patronage, such as temple and monumental architecture. A number of these points will be discussed in greater detail below.

Another factor which should be taken into consideration is the way in which a design could be taken over by another culture or religion. The introduction of Egyptian religious beliefs in Rome, especially the Isis cult, can be taken as a prime example of how religious images were deliberately transported from one area of the Empire to another [7]. In addition to the movement of design from one country to another, the effect of religious art within one country should also be noted. An example of this point can be seen in the way in which the image of the Egyptian god Horus with a crocodile was incorporated into Christian iconography. The origin of this image lies in Pharaonic myths concerning the battle between Good and Evil as personified by the fight of the falcon-headed god Horus against either Seth or Typhon (Griffiths, 1960, 102, 109-110). In a possibly fourth century A.D. sandstone relief now in the Louvre Museum, Paris (X 5130), Horus is shown wearing Roman armour and mounted on a horse; beneath the horse's hoofs is a crocodile which Horus is about to kill with a lance (Du Bourguet, 1971, 89). In later Christian scenes the idea of Good versus Evil in the form of Horus (without his falcon's head) on horseback killing a crocodile is transformed into Egyptian riding saints, a prime example being St. George slaying a dragon (Michaëlidès, 1948-49, 91-92). According to the French scholar G. Michaëlidès, this theme was also the prototype for the legendary Muslim hero, Khidhar (Michaëlidès, 1948-49, 93).

Yet another element which has to be considered are the so-called 'outside' influences. Such a factor not only concerns the idea that a

design is not simply copied in various distant geographical areas, but that the style of working might also have been incorporated within the repertoire of another culture. For example, wood carvings were found at the Central Asian site of Lou-lan which appear to have been local products but which, according to the archaeologist Sir Aurel Stein, were of a quasi-classical style (Stein, 1921, 403). The decoration on one of these carvings was described by Stein as being so graceful and vigorous that it "could easily be mistaken for good Byzantine work" (Stein, 1921, 403). Another panel from the same source bore four hanging wreaths which had "a curious late Roman appearance" and they "might fitly take their place as a specimen of Empire furniture" (Stein, 1921, 403). Similarly, a basically Indian form of art called Gandharan from Northern India relies to a certain extent on Greek forms (see for example, Rowland, 1970, 121-148). But perhaps one of the most intriguing examples of how a design could be adopted by another culture is a seventh or eighth century A.D. textile called the Banner of the Mikado Shomu, which is now in the Shosoin Treasury, Japan (fig. 187) [8].

The basic design of the Shomu textile is made up of a series of circles with pearl borders. Within the circles is a tree flanked on both sides by two pairs of horsemen shooting arrows at pouncing lions. The basic design, i.e. a circle with pearl border, can be found on numerous Sasanian silk textiles and also on the depictions of textiles at Taq-i-Bustan [9]. The style of the interstice medallions, and perhaps of greater significance, the faces and armour of the warriors are purely oriental. It would seem likely, therefore, that Sasanian silks had found their way to the Far East and had been copied, either in Japan, or as would seem more likely, in China [10].

The idea of copying, or rather of being inspired by other people's work, continued well into the Medieval period in Europe and the Mediterranean regions. The Dutch scholar R. W. Scheller defined in his work on Medieval pattern books the difference between medieval and modern attitudes in the following manner: "Whereas a modern artist begins his work by studying and copying from nature, his medieval colleague derived his inspiration mainly from other works of art" (Scheller, 1963, 2).

Yet it is not just other artistic forms which formulated changes in people's taste. The concept of fashion and the desire for "change for change's sake" appears to have been as important during the Roman period, and throughout the Roman Empire, as it is today. Nevertheless, due to the problems concerning communication over a wide area, such changes would seem to have been much slower in taking place than would now be regarded as common.

A change in textile designs and the use of a different range of designs in various regions of the Eastern Mediterranean during the Roman Empire, can be highlighted by comparing a group of fourth century A.D. textiles from Hawara in Egypt and comments concerning contemporary clothing by Bishop Asterius of Pontus, Asia Minor (ca. A.D. 330-410). The Hawara textiles were found in a mid-fourth century grave at Hawara, Upper Egypt, by Sir Flinders Petrie in 1887 (Petrie, 1889, 12-13). They have been given this date due to the presence in the grave of a bronze coin of one of the sons of Constantine I (ca. A.D. 340) [11]. The textiles are decorated in the following manner (fig. 189a-e):

A: band with a series of squares enclosing ornate diamonds, flanked on either side by a small connecting chain motif, worked in blue; (B and C) large oval in dark blue with design of connecting diamond trellis work

enclosing similar internal pattern; these pieces belong with (A); (D) large roundel in purple with a knotted circle centre enclosed by an interlace design and pearl border; (E and F) roundel in purple with vine trail border (debased) enclosing central square with two diamonds. The smaller diamond has been divided into four by circles which enclose four connecting circles/diamonds; (G) roundel in purple with traces of a cable design within a pearl border.

In Bishop Asterius's homily on Lazarus and the rich man, he is clearly against the use, or perhaps more accurately, the overuse of highly decorative patterns derived from various traditional and literary sources (secular and spiritual), on clothing worn by the citizens of Amaseia:

"Others again following their own judgement are lovers of similar vanity having discovered some empty art of weaving they have fashioned for themselves and their wives and children bright clothing decorated with ten thousand images There are lions and leopards, bears and bulls and hounds; forests and rocks, and beast-killing men and all the skill of graphic art copying nature The more pious of the wealthy having read the gospel story hand it over to the weavers: our Christ himself with all his disciples, and each of the miracles as the narrative has it. You will see the marriage in Galilee and the pitchers " (Asterius, *Homilies*, 1) [12].

Based on the above description it would seem unlikely that the patterns associated with the Hawara textiles would have been regarded by Bishop Asterius in an offensive light. On the other hand, the decorative garments which Asterius was complaining about may have resembled the garment depicted on a second or third-century A.D. stone grave relief of a noble man called Jarhai, which was found at the Syrian site of Palmyra [13]. The tunic has two broad clavi which have a descending design of an

ornate vine trail with foliage and bunches of grapes (fig. 190). Within the vine there is a bird and a semi-nude female who appears to be plucking a large bunch of grapes. There are also traces of an elaborate design on the man's cloak including clavi with roundels enclosing rosettes and an 'H' form over the left shoulder. It is clear from several points that the man is wearing a Western, i.e. Roman style, costume [14]. Firstly, he is wearing a cloak which has been tossed over the left shoulder. Such a style of wearing a cloak is quite common in Roman figures from throughout the Eastern Mediterranean. On the other hand Persian men are usually depicted wearing cloaks which hang from both shoulders. Secondly, in depictions of Persian male costume at Palmyra there is normally a single broad stripe which goes down the centre of a short tunic, rather than the double clavi form which again is common to Roman period depictions of Eastern Mediterranean costume and which can be confirmed by extant examples in various museums throughout the world [15].

A similar range of designs can also be seen on certain fourth and fifth century A.D. textiles now in various museums throughout the world. The Haags Gemeentemuseum, for example, has a tapestry woven textile with a line of dancing male and female figures set within an archway. Above the arches there are felines in roundels (Anon., 1982, 45, no. 23). Similarly, in the British Museum, there is a tunic which has roundels with scenes of the Nativity; it was found at Akhmim and given to the Museum by W. J. Myer [16]. The continued use of highly decorative patterns with Gospel themes on clothing can be seen in a sixth century mosaic in the S. Vitale Church, Ravenna. The mosaic in question includes the figures of the three Magi on the hem of the Empress Theodora

cloak (the image of the Magi will be discussed in greater detail later in this chapter).

It could be argued that the parallel between the Hawara textiles and the bishop's comments are not valid as the Hawara examples represent a group of objects probably taken from a child's tomb, while the bishop was writing about the textiles worn in Amaseia, generally by adults. It should be noted, however, that the Hawara textiles came from five different tunics, and it was normal during the Roman period in Egypt to cut down an adult garment to fit a child, and also to cut the roundels from one garment and sew them onto another [17]. Thus it is can be suggested that the Hawara textiles actually represent a selection, albeit perhaps small, of contemporary adult 'fashion' in fourth century Hawara. Similarly, the bishop was talking about general fashions worn by people in the street, rather than the high fashion of the court. Thus, both groups of textiles can be used to illustrate the idea that popular fashions during the Roman era did change and vary over a period of time and in various places.

Another interesting aspect concerning decorative textiles lies in the relationship between decorative textiles and other art forms, most notably mosaics. This point has been discussed by various scholars, for example, J. Lassus and D. Levi in respect to the use of floret motifs in the Antioch mosaics, as well as by S. Germain and D. J. Smith in their discussions concerning mosaics from other areas of the Roman Empire [18]. A suitable example to illustrate this idea would seem to be a first century A.D. mosaic in Pompeii (House VI XI 10) which is made up of a series of interlacing lines and which appears to have been derived from the basic weave of a textile, namely, the tabby weave [19].

It should be noted, however, that the use of the same sort of motif in association with a wide variety of objects can be found throughout the Roman world. For example, in Figure 191, there is a drawing of an interlace design from an illustrated papyrus found at Oxyrhynchus (25 3B.58/J [111]; see below). The same, or very similar, motifs can be found on objects found in Egypt which were made from other materials, and which derive from a wide variety of periods. Such designs have been found on a silver bowl from Qasr Ibrim, Nubia, as well as on glass work, mosaics, wall paintings, other forms of cloth, etc. [20]. There are, thus, many inherent difficulties in a comment which states that the design on 'this' object was actually and specifically derived from the design on 'that' object.

Another example which can be used to illustrate this point is a fourth or fifth century A.D. resist dyed textile from Antinoë, Egypt, which is now in the Louvre Museum, Paris, and which depicts a young child being washed [21]. According to a series of names which form part of the decoration, the scene represents the first bath of Dionysus. The same scene can be found in a sixth century Syrian mosaic which, again according to the accompanying inscription, depicts the first bath of Alexander (Chehab, 1958, 46-50, pl. XXII). The use of the 'first bath' motif can also be found in Christian iconography under the title of "the first bath of Christ". The first bath theme in Christian art will be returned to later in this chapter.

It would seem difficult, however, to say exactly how a design spread from one region to another. Nevertheless, it can be shown from the discovery of various items throughout the Roman Empire that decorative ideas could have been spread by the exportation of objects. The

exploration of such objects can be divided into several different forms, for example, the St. Menas flask which was found at Savarua in Hungary may have belonged to a local devotee of St. Menas; it may have been a souvenir of someone's trip to Egypt, or simply represented a curio from a foreign land which somehow found its way to Savarua [22].

On the other hand, the glass mosaic panels (sing. *opus sectile*) which were found at the port of Kenchreai, near Corinth, represent the exportation of complete objects. These panels came to light during the excavation in the 1960's of a submerged cellar of a mid-fourth century building (Ibrahim, *et al.*, 1978, 1). According to the excavators, about one hundred glass panels depicting various themes, including Nilotic scenes, were found (Ibrahim, *et al.*, 1978, 1). Further to this they felt that it was likely that the panels were manufactured in Egypt (Alexandria), or possibly Italy, and then exported to Corinth in order to decorate some unknown building (Ibrahim, *et al.*, 1978, 227, 266). Thus the Kenchreai panels represent the deliberate exportation of a large number of decorative objects, apparently for a specific purpose as opposed to the possibly unintentional exportation of a single object as appears to be the case in respect to the Menas flask mentioned above.

If the discussion of how a design may have been transferred is taken slightly further, the question arises by what process one design became popular while another may have sunk into oblivion. The ramifications of such a point, however, are far beyond the scope of this thesis. But on a very simplistic level it may have been that, for example, a weaver in Egypt liked a design on an imported Greek pot, and re-used the form on a textile he was weaving. Someone saw the result, again liked it and copied it in a slightly different manner, etc.

A similar method of pattern transference, i.e. the copying of a design from one object to another, has been advocated by various scholars in respect to the question how a particular type of design became popular in various regions of the Roman Empire. For example, in an article concerning finds from the site of the Mote of Mark in Scotland, the British archaeologist L. Laing wrote about several brooch moulds which had interlace patterns (Laing, 1975, 107-108). According to Laing the source of these patterns derived from late Roman objects from the Mediterranean region (*ibid.*, 107). Further to this he wrote that the designs were in all likelihood derived from Coptic textiles: "The inspiration behind the Mote of Mark moulds should be seen as coming directly from the Mediterranean in the period around 550. Through what medium could interlace have been transmitted? The answer must surely be Coptic and other textiles" (*ibid.*). Reference was then made by Laing to the similarity between the interlace of the Mote of Mark moulds and a Coptic textile now in the Whitworth Museum, Manchester (it should be noted, however, that this textile was not found in Britain; *ibid.*).

As noted above, Laing made a direct comparison between the interlace patterns associated with the moulds and the Whitworth Coptic textile. One obvious problem with this theory is that no Coptic textiles have been found in Britain. The lack of such evidence may simply be due to the fact that none were actually ever there, or as would seem more likely that the few that did occur have simply not survived. The point is strengthened by the fact that Coptic beads, bowls and possibly even glass have been found at various archaeological sites throughout Britain [23].

In addition to these "British" Coptic objects, a number of Coptic textiles have been found in Roman period sites in various North European

countries. One of these pieces, with an interlace design, was found at Conthey in Switzerland, and was published by E. Vogt in 1934 (Vogt, 1934, 198-206). More recently, the Danish archaeologist, L. Bender Jørgensen has published a Coptic tapestry fragment which was found in a grave in Cologne, W. Germany (Bender Jørgensen, 1985, 85-100). In the same article she refers to her identification of four more fragments of Coptic textiles from sites in North Europe. These 'Coptic' textiles have come from the following sites: an unspecified grave from Rhenen "Utrecht, The Netherlands; an unspecified grave in the Severinskloster, Cologne; Grave 1351, Krefeld-Gellop, W. Germany and finally Grave 40 Nidernberg in Bavaria, W. Germany (Bender Jørgensen, 1985, 91).

It would seem reasonable to suggest, therefore, that patterned textiles could have been an important source of design transmission. I have severe reservations, however, concerning how far this idea can be taken with any degree of exactitude. An extreme example of this point can be illustrated by the work of the late American art historian P. Ackerman. Ackerman included a number of her own comments (indicated in the Orbeli text by the use of []) into an article on Sasanian silver by the Russian historian J. Orbeli. Orbeli referred to the similarity between certain metal work techniques and their possible origin in decorative woven and embroidered textiles (Pope and Ackerman, 1938, 752-753). In one of Ackerman's asides she gives a detailed description of a Sasanian silver plate now in the Hermitage Museum and embroidery stitches which, in her opinion, were the inspiration behind the design:

"A second plate, likewise in the Hermitage Museum, which also has other stylistic characteristics connecting it with the lioness plate, has similiar indications of having been adapted from an embroidery. It shows a lion felling an ox, and the bodies of the animals are entirely covered with

rope-twisted lines, parallel and juxtaposed, a direct imitation of couched thread, quite probably, in the original, metal thread. The tree, on the other hand, is obviously made of appliqué materials held down with long and short edge-stitches, supplemented in two of the motifs with seed-stitches or perhaps French knots; and the outline of the pond is again an appliqué piece held, it would seem, with scalloped button-hole stitch. The pond is made of couched thread in imbricates, and the water may well have been represented with silver thread". (Pope and Ackerman, 1938, 753).

It is feasible that Ackerman was correct in her interpretation, but I would be interested to know whether the embroidery stitches she cites were actually in general use during the Sasanian period or whether she had simply attributed modern embroidery knowledge to the object. Unfortunately, as so few embroideries appear to have survived from the period in question, it would seem unlikely at present whether this point could be satisfactorily resolved.

Another question which has to be asked concerning the transmission of designs during the early centuries of the first millennium A.D. is whether it is possible that something existed akin to Medieval and Renaissance pattern books, for example, works such as the famous mid-thirteenth century drawings by Villard de Honnecourt or such as Venetian pattern books of the fifteenth and sixteenth centuries [24]. Such an idea would be helpful in explaining how similar motifs 'travelled' from one region of the Roman Empire to another, for example, the Seasons mosaic mentioned previously. One scholar who has put forward this idea is the art historian J. M. C. Toynbee in her work on animals in Roman life and art. According to Toynbee the lion and stag motif which was used as the central pattern of a mosaic found at Verulamium or St Albans, England, must have been based on a pattern book of some kind: "He [the

commissioner] must have been shown the group in an imported copy-book and perhaps have admired for their own sake the vigorous drawing and vivid colouring of the animals" (Toynbee, 1973, 68). The English historian D. J. Smith was more direct on this point when he wrote that the patterns on two mosaics at Frampton and Hinton St. Mary (also in England) must have been derived from the same pattern book (Smith, 1965, 100).

It should be noted, however, that no such work appears to have survived nor, according to Scheller, are they referred to in contemporary written sources, so their existence should be regarded as an hypothetical possibility (Scheller, 1963, 4, fn. 1). The American art historian O. J. Brendel suggested that Roman artists may have drawn inspiration from illustrated manuscript scrolls, which were also easy to carry around: "They [the designs] may be due, for instance, to transportable aids such as sketches in pictured scrolls kept in the workshops as model books" (Brendel, 1979, 181). Again, however, there is no direct evidence to suggest that workshops did actually possess such objects.

On the other hand there is evidence in the form of extant examples for drawings which were either sketched out as roughs for textiles or as very detailed painted patterns [25]. One such example is an unprovenanced Romano-Egyptian papyrus which is now on display in the Victoria and Albert Museum, London (VA T.15.1946; fig. 192). The papyrus was given to the museum by the English Egyptologist P. E. Newberry in the late nineteenth century. It has a square design, worked in black ink or paint, of Orpheus with two animals, enclosed by a border of shells, fish, crabs and other sea creatures, with four faces in the corners. Next to the square there is a band or clavus design with a putto, plants and animal shapes [26].

In addition to the Victoria and Albert example there is also an, as yet, unpublished group which comes from the site of Oxyrhynchus in Middle Egypt (Whitehouse and Vogelsang-Eastwood, forthcoming). A vast collection of papyri was found at the site during the late nineteenth and early twentieth centuries, and this mass includes at least 250 painted papyri or papyri with ink drawings. It should be stressed that not all of these illustrated papyri were to be used for the production of decorative textiles. It is clear from the appearance of the images that some were for architectural use, others appear to have been for wall-paintings, while many appear to have been simply doodles [27]. There are, however, a group of about ten papyri which can be linked to the designs associated with textiles. The link has been basically made on their appearance and overall shape rather than the use of specific motifs [28]. Some examples, however, are border line cases and may have been used for the production of, for example, mosaics. Yet the basic principle would appear to have been the same, i.e. they were meant to act as a 'cartoon' for the production of a two-dimensional design.

In general, therefore, it would appear that these illustrated papyri from Oxyrhynchus represent something nearer to the more modern concept of a designer's portfolio of ideas rather than a pattern book as defined by Scheller. In respect to the finished textile patterns, perhaps a better analogy would be the large cartoons used during the medieval period and later, for the weaving of the great Arras and Brussels tapestries. One of the most famous, extant series of this type of 'blue print' are the Raphael tapestry cartoons which date from 1515-1516 and which are now in the Victoria and Albert Museum, London (Reynolds, 1972, 3).

10.3. Some Ideas Concerning the Commissioning of Textile Designs

A somewhat neglected area in the study of textiles concerns the question as to how textile designs were actually commissioned, if indeed they were commissioned. In this section I wish to give a few suggestions about the manner in which a customer may have decided upon a particular design on, for example, a new tunic. It should be noted that the possible means of commissioning designs which are described below are given in respect to the commercial production of textiles in Egypt, as opposed to those textiles produced for use in a temple, by the state, or within a private household.

It has been suggested above that a weaver may have had an 'ideas portfolio'. If this is accepted then the question must be asked how a particular design was chosen. Was it entirely left to the discretion of the weaver or were other influences of importance? Also, did professional textile designers exist, namely, professional artists who adopted designs from other objects to be worked on textiles of various types? Such a concept has been put forward by the English textile historian D. King in his work on a number of compound weave textiles now in the Keir collection (King, 1981, 95). King described the range of hunting designs associated with the textiles. In particular he mentioned the comments made by Asterius which have been given previously in this chapter. In this respect King wrote:

"The textile designer had no need to invent such motifs; the stereo types of animals and hunters were so widely employed in all the arts that they must have been copied into every designer's notebook. His task was rather to adapt and arrange them to suit the use and format of the textile to be produced and the particular technique to be employed, whether resist-dyeing, embroidery, tapestry weaving or drawloom weaving" (King, 1981, 95).

The idea of a textile designer in the manner which King described, i.e. someone who produced designs suitable for textiles and then adapted the design according to the needs of the producer, for example, an embroiderer or weaver, seems to be of a relatively recent origin. Such artist/designers are now an accepted part of the modern textile industry, but as yet, I have been unable to find any evidence to suggest that middlemen in the form of 'textile designers' existed prior to the Renaissance period. Instead, it would seem that embroiderers, weavers, etc. either produced their own designs (from whatever source they chose), or they produced the design which their clients wanted or *vice versa*. For example, a weaver may have asked to a customer "Do you want something like Mrs. So-and-So had, but in blue instead of purple?" So far I have been unable to find any proof for this course of action, but it would seem to be a possibility and as such must be considered.

Another possibility is that a customer may have gone to a weaver and said "I want such and such a design in this colour". Such a course of action would seem to be indicated by a first century A.D. Egyptian letter from Apollonius in Alexandria (?) to his son. The letter was found at the site of Oxyrhynchus: "A pattern of the colour of the dress that is being made is enclosed in this letter; give it to Nicanor to look at, in order that, if he likes it, he may write to us, for it has not yet been given out. We are going to use local purple" (P. Oxy. 1153).

A third possibility is that a weaver followed his own initiative over the production of a design and wove it in a series of colours in the hope that with these products he could attract various customers or which fitted into the local textile market. Such a course of action is

indicated by the use of the same geometric design for two compound weave textiles. Instead, however, of being woven in the same colour combination they are in two different colourways, namely orange and cream (VA 306.1891 <74>), and purple with beige (VA 305.1891 <73>; see figs. 148, 149). It should also be stressed that, although the warp threads are both undyed they were of a different colour, thus it would seem unlikely that they are from separate areas of the same textile. A similar situation, namely, the same design but in different colours, also holds true for a textile now in the Abegg Stiftung (AS 142 <142>; see fig. 150) [29]. These details concerning the appearance of the compound weave textiles would suggest that it was the weaver who decided the colours in which to produce the cloth. Perhaps this course of action was followed in the hope of appealing to the tastes of a variety of customers, in the same way that a modern wallpaper pattern book has the same design in a number of different colourways. Nevertheless, as noted in the last chapter, the potential cost of producing such textiles may also have been a consideration.

In respect to the market forces which influenced the production of particular textile designs, it is possible to look at the number of tapestry woven textiles which may be copies of silk textiles (although as previously noted, such a comparison should be treated with care). A good example to illustrate this point is a comparison between the interlace design on a silk textile (fourth to fifth century A.D.; possibly a compound twill weave form), which was found in the tomb of St. Julianus, Rimini, and that of a wool and linen tapestry weave textile now in the Washington Textile Museum [30]. Both textiles have simple interlace designs set within roundels, although in the case of the St.

Julianus example these are connected, while those of the Washington example appear to be isolated.

Both of these designs can also be compared with the interlace motifs on the Hawara textiles (wool and flax tapestry weave), and also, perhaps of greater interest, with the interlace design depicted on one of the Oxyrhynchus papyri (18. 2B/68D (1-2) b). Similarly, there is a tapestry woven textile now in the Louvre Museum, Paris (F43, X 4533), which has a design of rows of discrete octagons with 'pearl' border enclosing either animals or trees with paired animals [31]. The layout of the roundels, plus the use of a pearl border to enclose birds, animals or a tree can be compared not only with compound weave textiles in wool, but also with silk compound weave textiles found in Central Asia by Stein and with the depiction of garments worn by members of the Sasanian court, at Taq-i-Bustan [32].

10.4. The Designs Associated with the Compound Weave Textiles Recorded in this Thesis

The designs associated with the compound weave textiles recorded in this thesis fall into two distinct groups, namely the simple and complex geometric forms on the one hand, and representational designs, i.e. those which include birds, animals, and humans on the other. In addition to these textiles there are also two very small groups which have (a) tapestry weave insets and (b) woven inscriptions. As regards each of these sub-sections a description will be given of various, relevant compound weave textiles. These will then be followed by a discussion concerning some of the possible sources of the designs and comparative examples in other media.

Not all the compound weave textiles noted in the catalogue have been individually described in this chapter, because many are duplicates or fall within a well defined and identifiable group. I hope, however, in the following descriptions and discussions to illustrate all the main types of designs so that it will be clear from the main catalogue entries why particular designs have been assigned to specific categories.

It should also be noted that throughout this chapter, stress has been placed on the designs of compound weave textiles, particularly those in wool, from known excavations both in and outside of Egypt. Nevertheless, where relevant, reference will be made to the designs found on other types of textiles, and to objects in other materials.

10.4.1. Geometric Designs

The section on geometric designs has been sub-divided into two, namely, (A) simple geometric patterns and (B) complex geometric patterns. In the latter case some of the textiles also include stylised floral forms, namely the rosette. It could be argued that these should come into the representational section as they are ultimately derived from plant forms, but in many cases the rosettes have become so formalised that they are simply patterns, rather than identifiable plant types.

Before describing the various geometric motifs which are to be found on this group of compound weave textiles, certain points concerning the nature of these designs, plus their comparison with designs on other forms of objects should be noted. Firstly, the same or very similar motifs can be found on rounded forms such as silver or glass cups, dishes, vases, etc., but as a generalisation, these tend to be individually represented, rather than repeating motifs which cover the

whole surface of the object. The two-dimensional nature of a textile design also means that they have more in common with mosaic patterns, stucco work, reliefs or wall paintings rather than with the various types of rounded forms mentioned above. Secondly, the size of some of these textiles again means that these pieces have more in common with mosaics etc., than the three dimensional objects mentioned above. It is very difficult, for example, to compare satisfactorily the design layout of a silver disc which may only be a few centimetres in size, with that of a wool compound weave textile which may be several metres long [33].

Thirdly, when discussing the repetition of some of the designs on the compound weave textiles some account has to be taken of the inherent limitations due to the nature of the patterning mechanism of the loom, whether it is simple pattern rods or some more complex form of patterning device. Such constraints do not exist when discussing mosaics, wall paintings, etc., as these patterns are produced purely by hand and are thus at the mercy of the possible whims of the craftsman or commissioner.

As a result of the similarities I have tried to indicate between these compound weave textile designs and mosaic patterns, it will not be surprising when, in the following pages, the emphasis is placed on a comparison between the textile designs and mosaics.

(A) **Simple Geometric Patterns:** The simplest pattern within this group is the design of a silk compound weave textile from the Mesopotamian site of Dura Europos which has been given a pre A.D. 256 date (see Chapter 4, fig. 136). The design is made up of two rows of connecting bar shaped motifs which were worked in red on a neutral ground. According to

Pfister and Bellinger this piece was of Syrian or Western, rather than Chinese origin, which would imply that they considered the design to be also Western in style (Pfister and Bellinger, 1945, 3). Nevertheless, the simplicity of the design would seem to be such that it could have come from anywhere, and so far I have found no satisfactory evidence to state conclusively that this design was purely Syrian in origin.

In addition to these simple designs there are also a small number of compound weave textiles which are simply made up of squares of various sizes worked in two colours, for example, a textile found at the Egyptian site of Karanis (Kelsey 12798, <149>; 8.2 x 4.0 cm, see fig. 97), which was worked in blue and red wool. Similarly there is a compound weave textile from the site of Qau el-Kebir, also in Egypt, which was worked in blue and orange wool (VA T.239.1923, <84>; 6.2 x 4.7 cm, see fig. 112). These textiles have been given tentative dates of pre A.D. 450 and "Byzantine" respectively based on archaeological evidence.

It is possible that several of these bi-coloured textiles once formed part of a much larger textile which had a more complex design. Such would seem to be the case in respect to two wool compound weave fragments from Qustul in Nubia, which have two areas of blue and red checks separated by three bands in red and yellow (Chicago Art Institute, 33 and 83 <165, 166>, the largest fragment is 23.0 x 8.0 cm, see fig. 128). The textile is possibly pre-fourth century A.D. in date (see Chapter 2).

The same type of band plus checked area can be found on another group of compound weave textiles which also seems to form a distinct category. The group is made up of small squares and rectangles of various sizes which produce an effect very similar to an art form popular

in Europe and America during the 1960's called optical or 'op art' [34]. The use of an 'op art' effect was also well known in Roman art, and seems to have been especially popular between the first century B.C. and the third century A.D. in Italy (Dunbabin, 1979, 6). The popularity of this technique may well be due to its suitability for mosaic patterns as can be seen by the black and white mosaics in Rome and elsewhere [35]. The desire to produce three-dimensional designs can also be seen on a number of mosaics, notably an early fourth century mosaic at the Piazza Armernia called the Great Hunt Mosaic which has a border made up of a three-dimensional Greek-key pattern (Dunbabin, 1979, 53-54, pl. 201).

The compound weave textiles referred to above appear to follow a very loose order of 'development', which starts with a textile now in the Royal Ontario Museum (ROM 961.107.6, <13>; 12.0 x 20 cm, fig. 193). The textile has a simple grid pattern in undyed wool which has been used to highlight alternating large squares (made up of 5 x 5 small squares) in blue and pink. The ROM textile is followed by two compound weave fragments which were found at the site of Armant in Egypt (Bolton 62.31.3 and 62.31.4, <33, 34>; 7.0 x 3.5; 5.0 x 3.0 cm; see fig. 111). These pieces have been given a late third, probably fourth century date, based on archaeological information. The design of these pieces is simply made up of alternating squares in blue and natural which have been divided by a double width grid line. The two fragments were found in separate graves and do not appear to fit into each other. The regular nature of the design, however, has made it possible for me to reconstruct the design as given in Figures 110 a,b. Interestingly, this is very similar to the design on a black and white mosaic from the Imperial Palace in Rome which has been given a first century A.D. date by the

Italian scholar G. Becatti (Becatti, 1965, 20, fig. 6). Nevertheless, it would seem very unlikely that these two objects should be regarded as contemporary, rather than as a good example of how 'useful' designs survive.

A further step from this motif is where the separating grid lines become divided into more rows and then sub-divided both vertically and horizontally following the divisions within the main squares. This form of pattern can be found on a silk damask textile which was found at Palmyra and which was regarded by Pfister as being Mediterranean or Syrian in origin (fig. 194; Pfister, 1937, 36). Because the city was destroyed in A.D. 273, it can be suggested that this type of design had become well established in the weaver's repertoire by at least the mid-third century A.D.

Another compound weave fragment with a similar, but not identical pattern to those mentioned above was also found at Karanis (Kelsey Museum 13704 a, <150>, pre ca. A.D. 450; see fig. 100). The textile was woven in blue and natural wool. Unfortunately, it has only survived in three small fragments (the largest of which is 8.5 x 4.0 cm). It has been depicted in L. Wilson's catalogue of textiles from Karanis as being made up of two large light coloured squares separated by a narrow dark coloured rectangle (Wilson, 1933, 17, no. 17, pl. III). I would like to suggest that it should be reconstructed as shown in Figure 100 with alternating light and dark coloured squares. Such a sequence would fit in with the other patterns described in this section. In another compound weave textile in wool from the same site the main blocks of the pattern (greeny blue and natural) have been separated by ten stripes in red and natural (Bolton 19.30.95, <30>; 17.5 x 12.9 cm; see fig. 99). The division

of the squares appears to be similar to that used on a compound weave textile now in the Victoria and Albert Museum (VA T.899.1886 <66>; see also Hildesheim, 4262, <171>), except that in this textile the blocks are worked in solid red areas rather than stripes (fig. 195).

The textiles described above have been worked in blue and natural or dark blue and light blue (with in some cases distinct red areas). There are also several fragments of compound weave cloth, however, which have the small square and rectangle motif produced in a much wider range of colours. The pieces in question all appear to have originally come from one length of cloth, although they are now in three collections [36]. The largest fragment is 48.0 x 46.0 cm in size and is now in the Victoria and Albert Museum, London (VA T192.1976, <116>). The Victoria and Albert example has a broad band of red (weft-faced repp weave) separating two areas of dark and light blue squares and rectangles (see fig. 72, the pattern and pattern faults associated with Norwich 58.19(39)a <120>). The effect is disturbing to the eye and is reminiscent of the so-called 'op art' form mentioned previously.

It is possible that one of the reasons why these simple 'op art' geometric designs were so 'popular' as textile patterns may have been the fact that they can be produced on a minimum number of heddles and rods, ^{without having} ~~withing have~~ to use a complex shedding systems. As a result, therefore, it would have been possible to produce a long length of cloth with an acceptable or perhaps even fashionable design with a minimum of equipment. Some possible uses of long lengths of this type of cloth will be discussed in the next chapter.

A more complex form of the simple bands and stripes idea can be seen in a blue and natural compound weave textile in wool which was once in

the Lamm collection and which is now in the National Museum, Stockholm (17/1939, <246>; 16.0 x 24.0 cms; fig. 196). The textile has two narrow bands and a wider band dissected by a series of six small stripes alternating with wider stripes. Another compound weave textile which would appear to fit within this sub-section of designs made up of small squares is a fragment which was found at the Central Asian site of Niya and which is now in the British Museum, London [37]. The textile is incomplete but it appears to have a design of a series of large zig-zags made up of small squares in blue, natural and red wool on a natural wool ground (see fig. 129). No parallels for this textile have been found amongst the compound weave textiles from known sites in the West.

Another textile to which I have been unable to find a direct parallel is an example excavated at the site of Qasr Ibrim in Nubia. The textile in question has rows of alternating diamonds in red and natural (Q.I. 74T/8, <44>; 15.5 x 17.0 cm; see fig. 115). Each of the diamonds has been dissected by a row of blue wool loops. Unfortunately, the textile was found in the disturbed fill in House X 2-1. As a result, therefore, it cannot be satisfactorily dated.

One of the textiles in this category has been made up of a series of narrow bands which are divided into long and short sections (Brooklyn Museum, 15.447, <258>; 5.5 x 14.0 cms; see fig. 107). The latter have been so arranged that they form a stepped pyramid design which is highlighted by the use of blue with red, and green with yellow. The piece is of particular interest as it was found at the Egyptian site of Antinoë during an excavation in 1913/14 by the English scholar J. de Johnson [38]. Unfortunately, he gave no indication of where he found this compound weave textile or under what conditions. As a result,

therefore, no acceptable archaeological date can be attributed to this textile or design.

In addition to the 'op art' types mentioned above, there is also a group of textiles which have bands of simple geometric designs and which appear to belong to other, much larger compound weave textiles, for example, a fragment which was found at the Nubian site of Qasr Ibrim. It was found in an early X-group context (A.D. 400-500) and in the same room as a scroll which was dated to the mid-fifth century [39]. It would seem possible to suggest that this piece of cloth was, at the latest, fifth century in date (QI 74T/77 <49>; 7.0x 18.5 cm; see fig. 119). All that survives of the various bands are two red and purple bands with a zig-zag motif, flanking a green and yellow band of alternating paired bars and diamonds. There are also traces of another band with brown and natural bars and diamonds following one of the red and purple bands. Another example is now in the Science Museum, London (SM 109344 (B) ii <61>; 10.0 x 23.0 cms, fig. 197). The design on this textile is made up of four extant bands of (a) a blue and natural stylised vine trail, (b) alternating stylised rosettes and squares in red, (c) a row of blue circles connected to each other with a thin line, and finally (d) traces of a row of large red, round shapes, possibly rosettes. There are also a number of other compound weave textiles in wool which have bands of a similar size and layout to the two described above. A description of all these pieces, plus the reasons concerning why I think they belong together, and how their function affected their appearance will be given in the next chapter.

(B) **Complex Geometric Patterns:** The range of designs associated with this sub-section is both varied and large so again I have sub-divided the pieces. The divisions are as follows: (i) purely geometric, (ii) rosettes, trefoils and quatrefoils, and (iii) stylised plant/tree motifs

(B,1) **Purely Geometric:** Two of the simplest textiles in this group are now in the Kulturhistoriska Museum, Lund (KM 37,604 a, b, <224>; 21.0 x 15.0, 16.0 x 15.0 cm respectively). One of the textiles has alternating monochrome bands (KM 37,604a <224a>; fig. 198). The patterns in the decorative bands are: (a) single line zig-zag; (b) three lines: one straight, two with a castellated appearance; (c) groups of three cross-like motifs, followed by the three lines described in (b). The second textile (KM 37,604b <224b>, fig. 199) has a more complex design which is made up of several distinct bands: (a) stylised rosettes with six small squares around a single centre square; (b) squares made up of two lines; (c) 'H' shaped motifs lying on their sides, but made up of small squares; (d) monochrome band; (e) two stylised leaf (?) motifs coming from a central stem; (f) truncated triangles set in opposite directions, and finally, (g) a four-armed geometric motif.

A number of textiles in this group have very regular geometric designs which are clearly reminiscent in their layout to floor and wall tiles, for example, a compound weave textile in the Victoria and Albert Museum has rows of discrete red and natural squares made up of four gamma shapes set at right angles to each other (VA T.69.1934 <87>, 33.0 x 6.5 cm; fig. 200). Another textile in this group which is now in the Royal Ontario Museum has a red and natural grid pattern enclosing a geometric

design made up of a central panel with a stylised rosette form and four 'arms' coming from the sides of the panel. The corners of the square are filled with small, alternating red and white squares (ROM 978.76.273, <22>; 12.7 x 17.8 cm, fig. 201). A much more elaborate example belonging to this group is a wool compound weave textile which is also in the Royal Ontario Museum (ROM 970.364.1, <15>; 30.0 x 45.0 cm, fig. 202). The design was woven in red, turquoise and natural and is made up of a series of crystal-like shapes which fit into each other. The shape is highlighted by the use of alternating bands in red and turquoise with thin lines in natural separating the areas. Within the various bands there are discrete circles (the so-called pearl shapes). The bands enclose a central pattern made up of small connecting hexagons in various colours.

There is also a group of compound weave textiles which have a dominant trellis work pattern enclosing a small and simple geometric motif. For example, there is a textile now in the Science Museum (109344 (B) v, <64>; four fragments the largest of which is 15.0 x 18.0 cm, fig. 203), which has a diamond trellis work enclosing a single four armed cross. The textile has been worked in dark blue, light blue, orange and dark red. It is very similar in appearance to an example now in the Victoria and Albert Museum (T.71.1934, <89>; 34.0 x 7.0 cm; fig. 204), and one in the Textile Museum, Lyons (26/812/20 bis, <191>; exact size unknown, fig. 205). The first two textiles have a trellis work design which encloses a small geometric shape, while the third encloses a stylised tree form. The central design of these textiles, however, has been woven in alternating rows of red and orange.

The same layout of a framework enclosing a small geometric motif can be found on a number of other forms of textiles, mosaics, stucco work, cups, etc. which have both Roman and Sasanian connections [40]. It should perhaps be regarded as a 'standard' design, rather than one which can be used for more closely dating or provenancing these particular compound weave textiles.

In addition to the compound weave textiles mentioned above which have rounded or circular forms, there are also a number of textiles with square or linear designs; for example, in the Louvre Museum, Paris, there is a compound weave textile which has an overall design of indented circles worked in blue and natural (Louvre AF 5666, <135>; 17.3 x 15.5 cm; fig. 205). Interestingly, there is also an area of red and natural which appears to come half way into the textile, but unfortunately, there is no indication as to the size or function of this region, as the textile has been damaged at this point.

A more distinct group, however, is formed by a number of wool and silk compound weave textiles in museums throughout Europe. These pieces are typified by having a small octagon or circle design which is connected to small squares. There is a minimum of decoration, if any, in either of these shapes. A good example to illustrate this point is a wool compound weave textile which is now in the Victoria and Albert Museum and which has a pattern of a rounded trellis enclosing indented squares (VA T.71.1934, <89>; 34.0 x 7.0 cm; see fig. 204). It was worked in green, orange and red wool.

There is also the purple, silk compound weave textile which was found in the tomb of St. Paulinus († A.D. 358), in Trier, W. Germany, and which has a similar, although not identical pattern (Cathedral inventory

no. C 28; see fig. 155). The design was made up of rows of small, connecting crosses and indented squares [41]. St. Paulinus was buried in Trier at the end of the fourth century, so at first glance it would seem reasonable to give the textiles a similar date. The tomb, however, was opened at various times and other objects were placed within (Braun, 1910a, 1910b). As a result, therefore, a late fourth century date given to this textile by various scholars can be regarded as likely, but not completely secure [42].

A similar, although not identical design to the Trier example is found on the silk compound weave textile from the tomb of St. Julianus († circa A.D. 249-251), in Rimini [43]. The design is made up of a series of connecting octagons enclosing smaller and darker octagons. In the interstices there are small rectangles which enclose five smaller squares in an x-shape (fig. 207).

Unfortunately, as with the St. Paulinus textile, a number of dating problems exist as regards the St. Julianus textiles. It was suggested by King that St. Julianus was Julianus of Istrian who died in about A.D. 249 (King, 1981, 102). According to Muthesius, however, the St. Julian in question was Julianus of Cilicia who was martyred in the early fifth century A.D. (Muthesius, 1984, 247, fn. 35). The problems of dating these textiles are further augmented by the fact that the tomb was opened several times over a period of about fifteen hundred years and other objects, including textiles, were placed inside (Gerola, 1911, 115). For example, the textile with the square design, plus another with small putti in acanthus leaves would appear to be early (Gerola, 1911, figs. 2, 6). Similarly, the silk textile illustrated in Gerola's Figure 4 is comparable with the wool tapestry textile found at Hawara which was

discussed earlier in this chapter and which was given a mid-fourth century A.D. date. On the other hand, the grave also included a large silk textile which has lions enclosed in roundels and which is similar to eighth century and later textiles [44]. The datable objects in the tomb also included a bronze coin of Constantine I (A.D. 306-337) and seventeen other coins which range in date from A.D. 814-1649 (Gerola, 1911, 115). As a result, therefore, the dating of some of the silk textiles to either the mid-third, or possibly early to mid-fourth century A.D. has to be treated with a degree of caution.

The designs associated with the Paulinus and Julianus silk textiles mentioned above are also comparable with those on several compound weave textiles in wool which are now in the Ashmolean Museum (1891.288, 532, <123>; the largest fragment is 17.5 x 9.0 cm) and the Victoria and Albert Museum (306.1891, <74>; exact size unknown, see fig. 148). These particular textiles are of interest as they were woven in two different colourways, namely, orange with a creamy natural colour, and purple with beige (respectively). Whether, however, these were copies of a design on a silk compound weave textile such as the Trier or Julianus examples, or indeed the other way around, remains a problem, because no satisfactory dating system for either group of compound weave textiles in wool has been found.

In his article on the various silk textiles which were found in the tomb of St. Julianus, Gerola drew a parallel between the silk fragments and a very similar design on the cloak of one of Theodora's attendants in a sixth century mosaic at St. Vitale, Ravenna (fig. 210; Gerola, 1911, 116, fig. 7). Interestingly, it should be noted that Rimini is near Ravenna, and that these textiles are now in the Ravenna

Museum, although whether the Julianus textiles should or could be classed as the prototypes for the mosaic pattern remains purely speculative. It would seem likely, therefore, that the Julianus textile belonged within the same tradition as the Trier silk compound weave textile. At present, however, due to the lack of information about the origins of both these textiles, the question whether it came from the same workshop, sources or tradition as the Trier textile must remain open.

Reference should also be made to the silk compound weave textile which was found in the tomb of St. Ambrosia († A.D. 397; see Granger-Taylor, 1983). The textile (S.8) was woven in a purple coloured silk and has a pattern of indented squares which gives the effect of a circle and small squares at the interstices (see fig. 154). The repeat size of the pattern is ca. 1.8 cm (vertically) and ca. 1.9 cm (horizontally) [45].

Mention has been made above to the appearance of this type of design on the Ravenna mosaics, but it should be noted that this is not the only mosaic where it has been used. Similar forms can also be seen on a second century A.D. mosaics as far apart as the "Martyres of Qeoussié", Libya and the mid-second century A.D. Savaria mosaic, Hungary [46].

Reference should also be made to an unusual design on a textile which was in the Rogers and Podmore collection (<178> present whereabouts unknown). The design was woven in dark blue and red and has a series of connecting diamonds with an internal fill of small dots (fig. 209). The diamonds plus their connecting lines make various shapes, including octagons and parallelograms. Inside these various forms are leaf-like shapes and smaller parallelograms respectively. The design of this textile is similar to a compound weave textile which was reputedly found at Antinoë, and which is now in the Lyon Textile Museum (Lyon 24/569/9

<190>; size unknown; see fig. 103). The textile was woven in blue and natural wool. The overall effect of this pattern is much larger and cruder than in the Rogers and Podmore textile, but the use of lines, diamonds and parallelograms appears to be the same. Unfortunately, the "Antinoë" example has been damaged so it is now impossible to say with any confidence the extent to which the rest of the two designs are similar, and as yet I have been unable to find any satisfactory parallels to this particular form of design.

Finally, mention should be made of one of the most complex designs within this group of patterns, namely that which is found on a compound weave textile in wool now in the Louvre Museum, Paris (AF 5832, <137>; 53.0 x 20.0 cm, fig. 210). The design is made up of a number of narrow bands with various geometric and stylised vine trail designs in red with blue and blue with natural, which flank a central band. The design of this broader band is worked in blue with natural and traces of three (one complete) connecting and elaborate octagons. Within each of these octagons there is an eight-sided star which in turn encloses four stylised leaves radiating out from a central circle with rosette. Between the octagon and the star shape there are eight groups of paired ornate circles.

The use of an eight-lobed star on textiles can be dated to at least the late third century A.D. in the Eastern Mediterranean region. This point can be illustrated by the discovery of a large fragment of cloth with a tapestry woven roundel and at least two bands, which was found at the Syrian site of Palmyra (destroyed in A.D. 273; Pfister, 1934, 19-20, T 20, pl VI). The large roundel has an interlacing eight pointed star design enclosing a stylised central rosette (*ibid.*). Nevertheless, it

would seem highly unlikely that the compound weave textile now in the Louvre (AF 5832), is of the same date. In respect to this point it should be noted that there are a number of other tapestry woven textiles which have been given a much later, fourth or fifth century A.D. date [47]. It is intriguing to note that the Louvre textile includes narrow bands which have a small repeat size, which gives the appearance of being simple, while having such a large and elaborate 'central' motif. Nevertheless, it remains unfortunate that so little is known about the background history of this particular compound weave textile.

(B.11) Rosette, Trefoils and Quatrefoils Forms: In this section I have taken the difference between a rosette, trefoil and quatrefoil to be as follows: a rosette was originally derived from a floral motif which had four or eight petals. In the stylised rosette form these petals sometimes appear as distinct units, but in other cases they are simply highly stylised 'blobs'. Trefoils are three lobed forms which radiate out from a central stem or square. Quatrefoils are the same as trefoils except that they have four lobes.

One of the more unusual compound weave textiles to be recorded in this thesis falls within this section. The textile was found at the Central Asian site of Lou-lan by the Swedish explorer S. Hedin, and has been given a pre mid-fourth century A.D. date (<229>, see fig. 127). The design of the piece is made up of a broad row of an eight-petalled rosette in an octagon which is made up of two lines of small, stepped squares connected by a larger central square. Beneath the line of octagons there is a stylised motif which could be described as foliage,

but this is somewhat hypothetical. There then follows a line of stepped zig-zags and a line of swastikas.

The use of dotted lines to define a framework containing rosettes can also be seen on a number of compound weave textiles, for example, Röhss Museum, Sweden (RM 44/1936, <209>; 11.5 x 23.5 cm, fig. 211). But perhaps of greater interest is the fact that this form of decoration occurs on three textiles which have come from excavations in Egypt. Two compound weave textiles in this group come from the site of Antinoë and are now in the Victoria and Albert Museum, London (VA T.167.1914, <80>; 5.5 x 13.0 cm; VA T.168.1914, <81>; 13.0 x 4.6 cm; see figs. 109, 110). The design of VA T.168.1914 is made up of a row of at least two close, but discrete octagons, enclosing a stylised quatrefoil radiating from a central square. The four diagonal sides of the octagons have been emphasised by the presence of two rows of small dots or squares. The other Victoria and Albert compound weave textile from Antinoë has a trefoil motif (with stem and stand) set within an elongated octagon. The octagons are discrete and in each of the interstices there is an elaborate even-armed cross.

In addition to the two textiles from Antinoë a wool compound weave textile was found at the Egyptian site of Karanis which has a pre-450 A.D. date. It has a design of stylised eight-petalled rosettes set within a single dotted line framework (Bolton Museum, 19.30.265, <32>; 7.5 x 7.25 cm, see fig. 98). The rows of rosettes alternate with rows of stylised octagons enclosing indented squares. The design is very similar to one found on a wool compound weave textile from the Nubian site of Gebel Adda which is now in the Royal Ontario Museum (ROM T75, <9>; the largest fragment is 14.0 x 11.5 cm; see fig. 123). Unfortunately, the

Gebel Adda textile is now in about seventeen fragments, so the complete design layout is not known. Nevertheless, in Figure 124, I have attempted to reconstruct the appearance of the surviving areas of pattern. The design appears to have been made up of three distinct decorative bands. Two of these bands include rosette forms, the first has stylised eight-petalled rosettes set within an octagon framework made up of two lines of small squares. In the interstices there are single indented squares. The other rosette design consists of more stylised rosettes in connecting octagons (single lines) which have circular forms with crosses in the interstices. The last decorative band is made up of squares and octagons in a pattern reminiscent of the silk textiles mentioned previously from Trier and Rimini.

Part of a second textile from Gebel Adda is now in the Egyptian Museum, Cairo, and appears to have the start of a rosette design with octagons and squares. The size and poor condition of the piece, however, make this identification purely hypothetical.

The design of the Gebel Adda textile now in the Royal Ontario Museum is also reminiscent of the design on a wool compound weave textile which is housed in the Victoria and Albert Museum, London (VA T.449.1887, <67>; 40 x 30 cm, fig. 212). The design is made up of eleven bands, some of which repeat the same motif. The bands are: (a) eight petalled rosette set within an octagon with large diamonds at the interstices; (b) row of connecting diamonds flanked on either side by a series of stylised vine leaves; (c) the same as (a); (d) row of alternating diamonds and squares; (e) band of red; (f) row of stylised vine leaves (see b); (g) 4½ rows of stylised quatrefoils set within a simple trellis work made up of two lines of small squares; (h) same as (f); (i) same as (e); (j) stylised

vine trail and finally (k) the start of some form of interlacing Greek-key pattern.

Interestingly, there are also three other compound weave textiles which have designs made up of a Greek key pattern [48]. Two of these pieces have identical designs, namely VA 376.1895 (<77>, 19.2 x 30.0 cm, fig. 213) and Brussels TX 57 (<4>, 33.5 x 14.8 cm). The design is made up of an all-over pattern of a Greek-key design enclosing an indented square or highly stylised rosette. To one side there is a broad purple band. The other textile in this group is now in the Archaeological Museum, Florence (Florence 7955, <198>; 20.4 x 17.0 cm, fig. 214). The design of this textile is made up of a broad band of Greek-key forms enclosing rosettes in octagons. The design has been divided into several distinct parts, namely a broad central band with rosettes flanked by two smaller bands which have rosettes surrounded by four small dots. Along the upper half of the textile there is a band of Greek-key design. All of these bands are flanked on the transverse sides by an area of red repp weave.

Another compound weave textile in this group comes from the Nubian site of Qasr Ibrim (QI 74T/41, <46>; 8.6 x 6.7 cm, see fig. 117). The textile was found underneath floor 4 of House X-15 and has been given a transitional X-Group to Early Christian date (ca. A.D. 550-600) by the excavators. The design is much more complex than the other rosette forms just mentioned, as it is made up of a stylised quatrefoil motif which is joined to an elaborate octagon by means of four 'tendrils'. The octagon is made up of a series of connecting dotted lines and squares which form various patterns. The interstices are decorated with a series of three dotted lines, the latter decrease in size to form a diamond shape.

Finally, mention should be made of another textile which is now in the Royal Ontario Museum (974.285.1 a/b; <19>, fig. 215). It has a rosette design which does not seem to fit within any of the types previously mentioned. The central motif is an eight-petalled rosette which is surrounded by twelve indented squares arranged in four groups of three. The rosette is enclosed in what appears to be either a square made up of thin lines, or an octagon whose vertical and horizontal lines are thin, but the diagonal lines have been incorporated into a dominant geometric design which is based on a symmetrical device made up of four diamonds enclosed by eight, paired rectangles. So far I have been unable to find any exact parallels to this particular piece, although similar motifs can be found on a compound weave textile now in the Louvre Museum (AF 6084, <141>; 30.0 x 50.0 cm, fig. 216). The first type of motif on the textile is a simple four-petalled rosette which have tendrils reaching from the centre to the mid point on the diagonal lines of the octagons. The interstices are filled with stylised quatrefoils. A band of a stylised vine trail motif (flanked by two monochrome bands), separates the rosette in octagon from a somewhat more complex octagonal design. The second band includes a four-petalled rosette which is enclosed with a discrete octagon. Surrounding the octagon is a large identical shape which connects a series of rectangles, and within these shapes are simple geometric forms which may once have been derived from the four-petalled rosette form.

(B.iii) **Stylised Plant Forms:** The simplest group of textiles in this sub-section have stylised leaf or tree-like motifs. The designs are either discrete or set within a framework, for example, two nearly

identical examples, which are in the Science Museum, London (109344(B) 1, <60>; 6.0 x 6.1 cm, fig. 217) and the National Museum, Stockholm (13/1939, <242> size unknown fig. 218), have simple rows of alternating stylised trees. A similar form of tree is to be found on a textile now in the Louvre Museum (AF 5983, <139>; 19.0 x 15.0 cm, fig. 219). It has several rows of indented circles, followed by the tree-like motifs and then a wide band of geometric shapes (zig-zags; castellated parallel lines; rectangles alternating with small squares with tags, and diamonds).

A highly stylised leaf or tree-like form can also be found on a textile which was found at Antinoë and which is now in the Textile Museum, Lyons (26/812/19, <188>; size unknown, see fig. 101). The motifs have been worked in blue on a natural ground and arranged in an all over pattern of rows in which the axis of the 'trees' has been placed at an angle and the stems face in alternating directions in the various rows. Beneath this broad area of pattern, there are two rows of blue stylised geometric forms (one appears to be a vine trail) which are separated by rows of a Greek-key pattern worked in red and natural.

Two textiles now in the Louvre Museum, Paris, also have stylised tree forms set within a trellis work. The first example, Louvre AF 5986 (<140>, the largest fragment is 36.0 x 23.0 cm, fig. 220), has a tree pattern enclosed in a grid made up of lines of small squares. The design has been divided into two distinct areas by weaving it in red with natural, and blue with natural. A more complex form of this type of design can be seen on another textile which is in the Louvre Museum (AC 6130, <134>, 19.0 x 15.0 cm, fig. 221), which has a design of stylised

leaves or trees in alternating rows. It was woven in blue and natural wool.

The latter Louvre textile is reminiscent of two compound weave textiles found at the Nubian site of Qasr Ibrim. Both of these textiles were worked in blue and natural wool. The first textile, Qasr Ibrim 74T/42 (<47>; 8.6 x 6.7 cm, see fig. 118), has stylised leaves set within a diamond shaped pattern the lines of which are made up of three small 'blobs'. A similar arrangement has been used for the second example, Qasr Ibrim 74T/15 (<45>), the largest fragment is 39.5 x 17.0 cm, see fig. 116), but in this case the leave is much more stylised. Qasr Ibrim 74T/42 was found in House X-15, below floor 4. The level was given by the excavators a transitional X-Group to Early Christian date, namely, A.D. 500-650. The second textile, 74T/15, was found in Room 1 of House X-7, its exact findspot lay in level 1, beneath floor 1. The level has been given an Early Christian date by the excavators, namely, A.D. 650-700.

A slightly more complex design is to be found on three fragments of a compound twill weave textile which are now housed in the Bankfield Museum, Halifax (EG 324, <36>; 38.0 x 25.0 cm); the Whitworth Museum, Manchester (8529, <118>; 43.0 x 23.5 cm) and the Victoria and Albert Museum, London (T.206.1979, <118> 4.7 x 9.0 cm, fig. 222). The design is formed by a diamond shaped trellis work made up of a series of small, joining rectangles, with a large (isolated) rectangle at the apex of each of the diamonds. In the centre of each of the diamonds there is a stylised tree-like form with a base and stem, and two 'leaves' supporting a small rectangle. VA T.206.1979 has part of one transverse edge of this textile which is made up of two, red and naturally coloured bands

flanking a blue and large (isolated) rectangle in natural at the apex of each of the diamonds. In the centre of each of the diamonds there is a stylised tree-like form with a base and stem, and two 'leaves' supporting a small rectangle. VA T.206.1979 has part of one transverse edge of this textile which is made up of two, red and naturally coloured bands flanking a blue and natural band with rectangles. Beneath the band there is a series of elongated octagons enclosing a four-armed motif.

A similar, but not identical design, is associated with Lamm I,16a (<280>, present whereabouts and size unknown; fig. 223) which has a design of trellis work made up of small squares, but instead of enclosing a tree-like motif they enclose a four-petalled shape. There are also traces of a border along one edge which is made up of quatrefoils alternating with a geometric form with four arms and two 'blobs'.

In a more elaborate textile now in the Boston Museum (33.520, <158>; 22.0 x 22.0 cm, fig. 224) the trees are very stylised and set in rows which alternate with quatrefoil motifs and small dots. Curiously, the design layout of this textile does not seem to fall within any of the groups previously described in this sub-section and it would appear to be unique.

One interesting but small group of designs uses vine leaves as the central motif. The best example of this type is now in the Koninklijke Musea, Brussels (TX 262, <6>; 71.5 x 5.5 cm, fig. 225; Errera, 1916, 46, no. 107). The design is made up of an all-over pattern of interlacing vine trails plus leaves in dark blue and natural. There is a border made up of two bands in red and then dark blue which surrounds the central patterned area. So far I have been unable to find any direct parallels

to this piece, although mosaic patterns would seem to be the obvious line of research.

Vine leave designs can be seen on a compound weave textile in wool which was found at the Nubian site of Qasr Ibrim (QI 74T/221, <49>; 13.5 x 8.0 cm, see fig. 120). The textile was found in the North Piazza region of the site in room 1, below floor 2 and as such has been given an X-Group 2 date, i.e. A.D. 500-550 by the excavators. The design is made up of a central square which has four stylised vine leaves radiating out from the corners of the square, and 'vine tendrils' which come from the sides. The central motif is enclosed on at least three of the sides by bands of small dots or squares set at an angle to each other.

A compound weave textile with a very similar motif is to be found on the Textile Museum, Washington (31.14, <268>; 33.6 x 31 cm; Trilling, 1982, 99, no. 111), and Louvre AF 5682 (<136>; 37.0 x 22.0 cm). The Washington piece differs from the Qasr Ibrim example in that the vine trails from the leaves are not quite so elaborate and the border design is made up of connecting diamonds as opposed to small squares (fig. 226). The Louvre example has a much wider boarder pattern (fig. 227). The similarity between the three designs is so close, however, that it would seem feasible to suggest that they derive from the same source, although they have been given somewhat different dates. The Washington example has been given a fifth century date by Trilling, but it should be noted that it was acquired in 1951 from a private source in Cairo (Trilling, 1982, 99). Similarly the Louvre example is also unprovenanced. The tenth century date given to the Louvre textile by Du Bourget, however, seems unlikely to me especially in view of the fact that the example from

Qasr Ibrim is probably late fifth, sixth century in date (Du Bourget, 1964, 345, no. G 3).

Curiously, a more stylised version of this design was used on a textile now in the Boston Museum of Art (96.159, <156>, 28.0 x 102 cm, fig. 228). The pattern in question is a small geometric motif with four leaves arranged around a small central point. The whole motif is enclosed in a square with heavy border. Each of these squares has been isolated by equally heavy bands of connecting diamond shapes which alternate with small squares. The textile is of interest as it includes part of another large decorative region. The second band is made up of a series of very stylised trefoils (four) which radiate out from a square. There are also leaf (?) forms at each of the corners of the square. These motifs have been set within a framework of connecting octagons. In the interstices between each of the octagons there are quatrefoils. These two regions have been separated by a band of connecting diamonds and what might have been a vine trail but which now looks like a zig-zag pattern with round shapes and stepped truncated triangles.

10.4.2. Representational Designs

The present sub-section forms the largest group of the compound weave textiles and includes the widest variety of designs associated with these textiles. The designs have been divided into the following groups:

- a Animals and birds: free standing or within a geometric framework
- b Hunting scenes: with or without human hunters
- c Scenes with human figures: not including hunting scenes
- d Mythological representations

d Mythological representations

e Christian iconography

g Woven inscriptions

a **Animals and Birds:** Due to the number and wide range of designs represented by the relevant compound weave textiles, this sub-section is further divided into the following groups, namely:

(i) Repeat patterns of isolated or discrete animals or birds in simple grids

(ii) Repeat designs of animals or birds enclosed in roundels (either discrete or connecting)

(iii) Discrete realistic depictions of animals or birds.

(i) **Repeat Patterns of Isolated or Discrete Animals or Birds in Simple Grids:** There are eleven compound weave textiles in this section, but unfortunately only one example has come from a known site. The piece in question was found at Qasr Ibrim, Nubia and came from the Small Church, pit 3W (QI 78T/300, <52>, the largest fragment is about 15.5 x 18.0 cm; see fig. 121). It was regarded as being possibly of an early Christian date (ca. 7th century), but as no further details are available concerning the findspot of this piece, it cannot be regarded as a completely secure date.

The Qasr Ibrim textile also forms one of the first in an apparent, although not necessarily real, development of this design form. The pattern is made up of a series of staggered rows enclosing stylised lions; in row A the lions face to right, in row B to left. The order is then repeated. A similar row of stylised lions can be seen on a wool

compound weave textile which is now in the National Museum, Stockholm (6/1939, <238>; 31.0 x 22.5 cm, fig. 229; Lamm and Charleston, 1937, 197, pl. VIA). The design is woven in red and natural wool. Instead, however, of the lions being in separate compartments as in the case of the Qasr Ibrim textile mentioned above, the lions on the Stockholm textile face left towards a palmate border, and are divided horizontally.

A slightly more complex form of this type of design, and one which is perhaps nearer to the Qasr Ibrim example, can be seen on a compound weave textile now in the Royal Ontario Museum (ROM 980.78.15, <28>; 47.0 x 45.0 cm, fig. 230). The stylised rampant lions are enclosed in a regular rectangular grid which has small light coloured areas where the grid joins. The same effect can be seen at the corners of a textile now in the Cluny Museum, Paris (Cluny 22.479, <131>; 6.0 x 13.2 cm, fig. 230a), which has stylised goats instead of lions within the rectangular grid. One slight difference is that there is also a small rectangle in the top right hand corner of the individual grids. A similar rectangle is to be found in the top left hand corner of another textile, also in the Royal Ontario Museum (ROM 961.107.5, <12>; 22.0 x 11.0 cm, fig. 231). Again, there is a grid pattern but this time it encloses a stylised bird, possibly an eagle. The framework, however, is more elaborate as the corners of the rectangle have been extended to enclose a simple geometric cross-like form. This has changed the shape of the grid from a rectangular to a hexagonal shape. An interesting point to be noted about this particular example is that the pattern is changed both in the way in which the birds face and by becoming 'upside down' [49].

The framework surrounding these, and similarly, stylised birds and animals appears to become more dominant than the forms it encloses. For

example, the crosses in the interstices become larger and the birds more stylised, as in the case of a fragment now in the Ashmolean Museum, Oxford (Ashmolean 1891.372, <125>; 10.0 x 7.5 cm, see fig. 62), or two lion patterns now in the Boston Museum (Boston 04.2036, <157>; 100.0 x 61.0 cm, and Boston 40.41, <161>; 13.4 x 10.5 cm; figs. 232, 233). The piece is also interesting because much of the patterned area has been obliterated by a dense cover of brown loops [50]. In one of the latter examples (Boston 04.2036) the crosses become quatrefoils and the outline of the framework becomes much more dominant. In the other example (40.41), the cross is replaced by a decorative square and the framework becomes an elaborate system of lines and small squares in alternating colours.

An example now in the Washington Textile Museum (31.12, <267>; 130.2 x 43.2 cm, fig. 234) has a similarly elaborate design of a small grid pattern made up of stylised foliage instead of straight lines, with ornate quatrefoils in the interstices (Trilling, 1982, 99, no. 110). The grid encloses a pattern of rows of single felines (possibly leopards) which face in the following directions: → → ← → ← . The pattern has been woven in broad bands of red with green. It appears from the photograph given in Trilling's catalogue that the colour of the background changes both at the top and bottom of the piece, but unfortunately no details are given in the relevant description concerning this point (Trilling, 1982, 99). Also, according to Trilling's description, this textile has a pile made out of undyed wool, but again no further details are given (Trilling, 1982, 99).

Perhaps the final element in this hypothetical sequence of design development can be seen on a compound weave textile now in the Victoria

and Albert Museum, London (VA 780.1893 <76>; 71.0 x 52.0 cm, see fig. 75). The design is still made up of a stylised form, in this case a bird, enclosed within an hexagon, but the border of the hexagon has been widened and encloses a stylised vine trail and in the interstices there are stylised quatrefoils or rosette forms.

Various points should be considered when discussing the compound weave textiles described above. Firstly, it would appear that the method by which these textiles were produced, namely, large areas with the same motif, played an important part in the finished appearance of the cloth. Secondly, it is possible that the decorative effect of these textiles would have been lost if applied on a large scale, for example, as a floor mosaic. Thirdly, these compound weave textiles were only woven in two colours, and it would seem likely that such an effect would have been too monotonous over a much larger, floor area.

In addition to the compound weave textiles referred to above there is a small group which have paired birds in grid frameworks which are not in symmetrical rows. The first textile is now in the Abegg Stiftung and has two rows of paired stylised geese or ducks (AS 9, <255>; 38.0 x 47.5 cm, see fig. 144; see comments made in the following section concerning the identification of such birds). The birds have been enclosed in a square grid which has small rounded white circles or pearls in the borders. The textile is divided horizontally by alternating lines in red and green (faded blue?). The vertical lines, the bands dividing the design and the birds, have all been worked in an identical yellowy colour. There are also several patches of dark blue along the right hand side of the textile, but their size and the condition of the textile

prevent further comments concerning either their original size or function.

The second textile in this group was in the Lamm collection (Lamm I,21, <283>; 31.0 x 10.5 cm, fig. 235; present whereabouts unknown). According to the description given by Lamm it was woven in a series of zones worked in blue, fawn and green wool. These colours are reminiscent of the bands used in the Abegg Stiftung example mentioned above (Lamm, 1937, 33). The illustration given in Figure 235 is, however, a reconstruction produced by Lamm based on several other textiles, so while it is feasible that it may originally have looked like Lamm's illustration, this cannot be regarded as certain. (Lamm, 1937, 33).

Before describing the last textile in this group it should be noted that I have been unable to examine this piece in detail, take photographs of it or find a satisfactory written description of the way in which it was woven. Therefore, while a visual examination suggests it was a compound weave textile (probably a twill form), I cannot be certain on this point. The textile in question is a fragment of silk (?) which was found in the tomb of St. Paulinus, Trier [51]. The colours used have now become discoloured and at present the textile appears to have a reddish brown and beige design, although there are areas of a much redder colour (fig. 236). The design appears to consist of pairs of stylised ducks or geese set within a framework with vertical lines which look like pillars with trefoils. Along the top of the design there is a similar line of trefoils.

While looking at various mosaics and wall-paintings dating from the Roman period in the Mediterranean region, it is clear that many of the frameworks which include birds tend to be vertically and horizontally

symmetrical [52]. On the other hand there are a number of direct parallels in Sasanian rock reliefs and stucco work to the layout of the textiles mentioned above. A good example to illustrate this point is a piece of wall decoration in stucco which came from a Sasanian period building at Varamine in northern Iran (Ghirshman, 1962, fig. 231). The design is made up of single circular forms enclosed within an asymmetrical framework. The horizontal bands are decorated with small, connecting roundels, while the vertical bands have rows of connecting paired forms which are almost heart shaped.

It would seem reasonable to suggest therefore, that the compound textiles with paired birds within asymmetrical grids originate in the Sasanian, rather than the Roman, tradition. Further details concerning the identification of the various bird types will be discussed in the following sub-section.

(ii) Repeating Designs of Animals or Birds Enclosed in Roundels (either discrete or connecting): Although animals and birds have been included in the title of this sub-section, the vast majority of the discrete motifs are birds. As a result, therefore, greater stress has been placed in this sub-section on the images of birds. It should be noted, however, that some bird designs which appear to belong to one of these sub-sections are of a mythical nature and represent very specific events rather than what may be described as more symbolic representations. A good example of this point is a compound weave textile now in the Dumbarton Oaks Collection (DO 36.43 <256>; 48.0 x 47.0 cm, fig. 237), which depicts two eagles clutching small horned animals. Because of this basic

difference in the nature of the designs, the 'mythological' pieces will be discussed in greater detail later in this chapter.

Many of the textiles in this sub-section have been teamed with a central stylised plant motif which is usually described as the 'Tree of Life'. The exact origin of the 'Tree of Life' theme appears to be unknown, but it is widespread throughout both the Near East and India, as well as appearing in Germanic and Scandinavian mythologies [53]. In the West the mythological importance of trees is perhaps best known from the Old Testament story of Adam and Eve, and the Tree of Knowledge whose fruit they were tempted to taste (Genesis, 2, 17; 3, 6-7). According to Frankfort, "the belief that divinity was manifest in the vegetable kingdom, was one of the oldest tenets of Mesopotamian religion (Frankfort, 1970, 135). In Assyrian mythology, for example, Enlil or Bel, the god of the earth, is sometimes represented as tending or protecting a tree (see for example the bas-reliefs from the palace of Nimrud, ca. 900 B.C.; Frankfort, 1970, 162, fig. 187). In Buddhist traditions the concept of the Tree of Knowledge is connected with the tree (Bodhi tree), beneath which Buddha sat and meditated (Asvaghosa, *Buddhacarita*, XII.115).

It is not surprising, therefore, that stylised trees and tree-like forms should appear so frequently in Iranian and Western art. Nevertheless it should be stressed that because a tree appears on a decorative object it does not necessarily represent the Tree of Life. Because of this point I have only described a motif as a 'Tree of Life' form when it shows certain characteristic elements, namely, its position in the centre of the individual roundel, oval, etc; ^{with a} long central 'stem', ^{out} from which come stylised 'branches' (generally symmetrically

rather than asymmetrically placed). Usually this form is flanked by a pair of animals or birds which stand away from the 'tree', although in some cases they do hold part of a branch or leaf in their mouths.

One of the interesting details concerning the birds which have been included in this and the following sub-section, is that many have been depicted in a sufficiently naturalistic manner to obtain some idea as to which species they were meant to represent. This point has been noted by many scholars, for example, Pfister, Orbeli, Harper and Brunner in respect to depictions of birds on silver dishes, bowls, etc [54]. These birds can be classified as follows:

- Long legged birds - water birds such as cranes, flamingos, herons
- short legged birds - land birds such as cocks, doves, guinea fowl,
grouse, quail, peacocks, partridges, pheasants,
song-birds, peacocks, and eagles
water birds such as ducks and geese

The pattern layout associated with this group of compound weave textiles is very varied, for example, some are in isolated roundels set within rows of circles/ovals, while others depict a series of connected circles, etc. Because of this diversity I have divided these textiles as follows:

- (i) isolated circles/ovals enclosing a single animal or bird (for example, RM 92/1936 <206>; 31.0 x 20.0 cm; fig. 238)
- (ii) isolated circles/ovals enclosing paired birds or animals (for example, NM 142/1935 <235>; size unknown; fig. 239)

-
- (iii) connecting circles/ovals enclosing single birds which all face the same way (for example, VA 89.1937 <109>; size unknown; fig. 240)
 - (iv) connecting circles/ovals enclosing single birds which face in alternating directions within a row (fig. 241). In Washington 73.555 (<271> 40.0 x 23.5 cm) for example, the birds appear to face in the following directions:

→ ← → ←
 ← → ← →
 → ← → ←

The layout of Washington 73.555 is similar in idea to a border on a stone relief depicting a hunting scene at Chahal Tarkhan, northern Iran [55]. The design on the border is made up of a series of connecting roundels which enclose boar heads facing in various directions → ← → ← etc. Below the boar heads there is a row of connecting roundels enclosing stylised eight-petalled rosettes. The relief appears to have come from one of hunting lodges of one of the later Sasanian princes and has been given a fifth century A.D. date by Ghirshman (1962, 187).

As well as differences in the basic layout of the bird in roundel patterns, there is also considerable variation in the size of the circles. In general, type (i) circles are the largest and can be more than fifty centimetres in diameter, for example, Washington 73.554 <265> has a reconstructed diameter of 52 cm (Harper, 1978, 134). On the other hand, the connecting circle (types iii, iv) tends to be much smaller, and

in the case of Washington 73.555, which was mentioned previously, they are only about 13.5 cm in diameter.

As noted above, the most common form of framework is a simple circle. In some cases, however, this is replaced by an oval form, or as in one example, a four-lobed ogee (Lamm I,15b, <278>; 25.5 x 12.5 cm, fig. 242). The most elaborate form of framework in this group was illustrated by the Swedish art historian C. J. Lamm in his work on the use of cotton in medieval textiles from the Near East (Lamm, 1937, fig. 29). Two fragments of the cloth have survived, but unfortunately they are in a very poor condition (the largest fragment is 42.0 x 13.0 cm). Lamm, however, has reconstructed the pattern so that there is a border which enclosed a row of ovals. Below the border there is a large oval which has a fluted border enclosing stylised petal-shaped forms (Lamm, 1937, fig. 29). Inside the second oval there is a single bird looking to the right, which Lamm has reconstructed as a duck-like bird with a cock's tail. According to Lamm the bird is reminiscent of a silk textile which was in the Wolfenbüttel collection and which had a *terminus ante quem* date of the ninth century [56]. Lamm admitted in respect to another textile that his reconstructions were based on the appearance of silk compound weave textiles (this piece will be discussed later in this chapter). It would seem possible, therefore, that this silk textile may have affected the way in which Lamm reconstructed the bird, so care should be taken with this comparison.

In all of the compound weave textiles mentioned previously in this section, single or paired birds are the dominant aspect of the pattern, but in one example they have been 'reduced' to small forms near the top of a tree (National Museum, Stockholm 9/1939, <240>; 91.0 x 20.0 cm, fig.

243). The pattern is made up of a series of connecting roundels or rather elongated hexagonals. The transverse ends of the hexagon have been decorated with a series of small square-like forms which may have been used to copy a pearl border. Within the framework there is a 'Tree of Life' motif flanked by two small birds with large tails, and although highly stylised it is possible to suggest that they were intended to represent peacocks. The lower branches of the tree have become very elaborate and turn in various directions. In the interstices between the hexagonals there are discrete birds flanked by similar small squares or crosses, but in a reverse order to those inside the framework. Above the hexagonals there are traces of a band with a series of squares, swastikas and N-shapes.

In addition to the differences in pattern layout described above there is also a wide variety of the borders themselves. The least elaborate forms are simply made up of a single row of pearls with carbouches at the four axes (Röhss Museum 52.1936, <213>; 16.0 x 46.0 cm, fig. 244). A slightly more complex form has the same pearl and carbouche arrangement, but the inner circle is delineated by a single line (for example, Röhss Museum 92/1935, <206>; 31.0 x 20.0 cm, see fig. 238). The most common form of border, however, is where there is a pearl border, with carbouches, which is enclosed between two lines (for example, Victoria and Albert Museum, T89.1937, <109>; 17.0 x 11.0 cm, see fig. 240).

In one example which was in the Lamm collection a pair of goats or ibexes were enclosed within a border of heart-shaped forms. In some of the more elaborate forms the pearls in the border are replaced by stylised geometric or floral motifs such as a vine trail, for example

Lamm I,15a (<277>), ca. 42.0 x 22.0 cm, fig. 245), which has a trellis work border enclosing isolated heart shapes, while Victoria and Albert 126.1935 (<103>), 51.5 x 16.0 cm, fig. 246) has a border of stylised leaves, possibly vine leaves. A more elaborate form of border enclosing a bird (duck?) can be seen on Lamm I,26 (<285>; exact size unknown). It has a double fluted border in an oval shape (fig. 247). Within the border there are stylised forms which may be derived from leaves.

Finally, some word should be said about a compound weave textile in wool which is now in the Keir Collection (no number, <173>; 29.0 x 20.0 cm, fig. 248). The main design is a tile-like pattern made up of a series of four gamma shapes set around a square. There is also, however, a row of circles with pearl borders which enclose stylised paired birds with short legs and long tails (possibly cocks). The two bands have been separated by a stylised vine trail which is repeated in a mirror image (the same pattern has also been used on the other side of the bird and circle band). It is the only compound weave textile recorded in my catalogue which has been woven in this manner, and although the birds certainly belong within this section, the overall layout of the motifs and bands is not typical for this group. In addition, the textile has been worked in red and undyed wool in the main pattern areas, but green and natural in the vine trail regions. Again, I can find no parallels for the colour combinations within one textile in any of the other examples referred to in this section.

When looking at other objects, for example, non-compound weave textiles and silver vessels, from known Western sources, it is noticeable that birds or animals in frame-works such as those described above, do occur, but remain scarce. On the other hand, there is a prolifery of

these forms on objects which are regarded as being Sasanian in origin. For example, there are two, three-dimensional representations of a duck or goose, and an ornate cock now in the Hermitage Museum (Orbeli and Trever, 1934, nos. 80, 81).

In respect to the birds on these compound weave textiles, however, it would seem more suitable to compare them with similar two-dimensional objects. A very good example to illustrate this point is a silver plate which is now in the Hermitage Museum, Leningrad (fig. 249) Orbeli and Trever, 1934, no. 29). The plate has a central roundel enclosing a goose with a piece of foliage in its beak. Surrounding it are six roundels with paired birds, cocks (a in fig. 249, peasants = (b) and doves (?) = c). One bird in each of these pairs appears to be slightly smaller than the other and may be the female bird. No such difference appears to have been made in the compound weave textiles, although this may simply be due to limitations imposed by the method of weaving.

Another Sasanian example with birds is a silver gilt vase which is now in the Museum of Fine Arts, Boston (58.94; fig. 250; Harper, 1978, 64-65, no. 21). The vase has two large roundels of haloed cocks enclosed in ornate roundels. Around the neck of each bird there appears to be a ribbon or necklace with three pendants, possibly pearls. The birds are enclosed in roundels which have a rope border enclosing a stylised trefoil form. Between each of the roundels there is a stylised Tree of Life motif. The design of the cock on this vase is comparable with a silk compound weave textile which is now in the Museo Sacro, The Vatican (fig. 251; Volbach, 1966, 54, no. 24). The cock is more stylised in the silk example, but it has a halo and there appears to be a necklace of some kind which has five small white ovals. Again, these may represent

pearls. There are also similarities in the border of the roundel which encloses the cock. For example on the plate the border is made up of two thickened lines, while on the textile the border includes a twisted rope with dot motif. Both sets of lines enclose a connecting heart/petal motif.

In addition to the fact that these birds frequently appear in the Sasanian artistic repertoire they also have various meanings within one of the main religions of the Iranian world at that time, namely, Zoroastrianism. In general it would appear that birds were regarded as "the creations of Ohrmazd" (the power of Good) and that they had the function of opposing or destroying evil creations of Ahreman, the spirit of Evil (Brunner, 1978, 104-105). Therefore, birds in general were regarded as decorative symbols for good luck, abundance and life (Harper, 1978, 46). More specifically, water birds appear to have been associated with rain and thus with fertility and the growth of plants; cocks were the personal bird of Sros who helped Ardwahist to fight off the demons of night, while eagles were sky creatures who helped the sun or sky spirits against darkness [57] .

It is interesting to note that a number of these textiles are reputed to have been found in Egypt and in particular at Fustat. It would seem reasonable to suggest that if the pieces actually came from Fustat, they either formed part of the baggage of 'Ali's army which invaded Egypt in A.D. 639 or that once Fustat had been established as the army's headquarters the textiles came with later soldiers, their families or perhaps merchants.

From the information given in this sub-section, namely on the symbolism associated with the compound weave textiles and comparative

objects, plus the place where some of these pieces are reputed to have been found, it would seem likely that this particular group of compound weave textiles were either made within the Sasanian Empire, or strongly influenced by its culture.

(iii) Discrete, Realistic Depictions of Animals or Birds: One of the most interesting textiles within this sub-section formed part of the Lamm collection and shows a fragment of a lion [58]. There are two fragments of the textile in question which were woven in brownish red, green, white and buff. No reference was made, however, to the type of fibre which was used, but its presence in Lamm's book on wool and cotton compound weave textiles would suggest it had been made in one or both of these fibres. The illustration in Figure 252 has been taken from Lamm's book. As can be seen in this illustration the design was reconstructed, by Lamm, to represent two lions facing away from each other (Lamm, 1937, 42, fig. 22). In the text relating to this piece, Lamm compared it with a silk compound weave textile from St. Anno's shrine († 1075) Siegburg [59]. It should be noted, however, that Lamm also commented that the similarity has "been somewhat exaggerated in the reconstruction" (Lamm, 1937, 42, fn. 50). So while it may belong within the lion tradition typified by the Siegburg silk example this point cannot be regarded as certain [60].

Another textile in this category has also been illustrated by Lamm (NM 3/1939 <237>; 45.5 x 18.0 cms; Lamm, 1937, 38, pl. V,c, fig. 19). The piece has been referred to in the previous section in respect to its heart-shaped border (fig. 253). The design enclosed by the border is made up of two goats or ibexes facing each other, but separated by a

stylised 'Tree of Life' motif. Both of the animals are holding a branch of the tree in their mouths.

In addition to the Lamm textile mentioned above there are also two other compound weave textiles in wool which have designs of paired animals flanking a tree. It should be noted that both of these textiles have designs which are worked in rows rather than in roundels, ovals or as individual motifs. The first example is now in the Victoria and Albert Museum (T.83.1937, <107>; 5.4 x 20.0 cm, fig. 254), and has a row of stylised trees, beneath which two very stylised animals are standing (facing away from the tree shapes). It has been worked in red and undyed wool. The tree plus the animals on the second textile are much less stylised and it is possible to identify the paired animals as having long horns, possibly representing goats, or deer (AS 1640, <147>; the largest fragment is 41.0 x 38.0 cm, fig. 255). As with a number of other textiles recorded in this chapter, the main design is in blue and natural, but there is also an area where it has been worked in red and natural. The styles of these two textiles are totally different, and it would seem that the Abegg Stiftung example belongs within the stylistic tradition of the birds and trees in roundels mentioned above, although the design has been worked in rows. So far, however, I have been unable to find any satisfactory parallels for the layout of the first textile, especially as the animals face away from the trees.

The image of a goat nibbling at a tree can be traced back in the Near East until at least the third millennium B.C. One of the most famous examples of this kind is the goat 'support' from Ur which is now in the British Museum (1215229; Woolley, 1982, 95-98). The goat or ibex with the tree appears to be a symbol for reproduction and fertility

(*ibid.*). It can be found on a wide range of objects dating from the Sasanian period, for example, there is a silver plate now in the Hermitage Museum which depicts a tree flanked by two goats (Orbeli and Trever, 1934, no. 32). The use of two animals flanking a tree does not appear to have been a popular form in the Roman Empire, although occasionally textiles with depictions of goats occur. These, however, are generally associated with rustic or Dionastic scenes, so although they may have also symbolised reproduction and fertility, they belong to a different iconographical tradition.

b Hunting Scenes: with or without human hunters

There are only a small number of compound weave textiles in wool which also include human figures. These textiles seem to divide themselves into two, firstly those which include hunting scenes and those in which humans are depicted as stylised forms. Another reason for separating these two types of human representation is that the hunting scenes seem to be comparable with animal hunting scenes, rather than, for example, praying or orans figures. As a result, therefore, depictions of human figures which are not in hunting scenes will be discussed in the next sub-section.

I have used the term hunting to describe any scene which includes either animals hunting animals, or men hunting animals. This has been done because I found it difficult to determine whether all of these scenes actually represent hunts which took place in the wild, or whether they were meant to represent hunts which took place within confined spaces such as parks, amphitheatres, etc. Due to the small size of many of these fragments and the incomplete nature of their designs, it would

seem impossible to be absolutely certain about such a distinction. As a result, therefore, I decided that all of the textiles described in this sub-section should be placed under the umbrella term of 'hunting scenes'.

The designs within this sub-section fall into two distinct types, firstly, those compound weave textiles which have the main motifs enclosed in a geometric framework of some kind, usually an octagon. Secondly, freestanding hunting scenes whereby a design is repeated both vertically and horizontally, but it is not set within a geometric trellis or framework. Sixteen textiles have been included within both these sections. There are also a further eight pieces which probably depicted hunting scenes of some form, but due to their sizes, such an identification must remain uncertain. Despite the overall number of textiles included in this section, however, there are actually a much smaller number of scenes represented as many of the designs are duplicated.

One of the compound weave textiles now in the British Museum, London (BM 21703, <39>; 82 x 139 cm, figs. 256a-e), has a series of four bands each of which is divided into two by means of paired octagons [61]. The four bands include the following hunting scenes (from right to left): (fig. 256b) man facing left holding a spear and facing a charging boar; (fig. 256c) dog running to left after a running antelope which is moving to left, but looking right at the dog; (fig. 256d) archer with flowing scarf or cloak, shooting an arrow at a fleeing lion. The arrow moves across both octagons; (fig. 256e) leopard (?) chasing a small animal (monkey?), both animals move to the left. In the interstices between the octagons are elaborate rosette motifs.

It would seem quite clear from the main elements of the design that the pattern is meant to represent a hunting scene. The point, however, is not so clear in respect to two compound weave textiles with the same design which have a similar overall layout and construction as the British Museum compound weave textile mentioned above (BM 21703), but whose design is totally different. The two textiles are now in the Victoria and Albert Museum and the Bade-Karlsruhe Museum (VA 1264.1888, <68>; 50.4 x 23.0 cm, and BK no number, <194>, size unknown). The design of the latter textiles is made up of a complex pattern of two lines of interlacing circles which enclose a feline (possibly a leopard) which appears to be lying on the ground but whose head is turned backwards, and a second feline (probably a lion) which is running to the left hand side of the textile (fig. 257). In the interstices of the circles are small birds.

It is apparent from the Victoria and Albert Museum example that this textile formed a complete band in itself, but there is no extant evidence to suggest that it was once one of four bands as in the case of the British Museum example. Alas, again due to the size of the Victoria and Albert and Bade-Karlsruhe textiles, it is now impossible to be certain whether these textiles were actually hunting textiles or not. Due, however, to their similarity in construction with the British Museum textile, and the fact that the design is basically a band of two connecting circles, I think it is likely that they actually belong within this genre. If this is correct then it leads onto the question as to whether they were the product of the same workshop. Unfortunately, at present, there would appear to be insufficient information to answer this question satisfactorily.

In addition to the textiles mentioned above, there are also a number of other compound weave textiles with animals set within octagons, for example a textile now in the Abegg Stiftung (4543/906, <147>; the largest fragment is 30.5 x 17.0 cm; fig. 258). The textile is made up of two fragments with the same design. It should be noted, however, that the octagons in Figure 258 have been incorrectly matched, and due to the size of the two pieces I do not feel confident in reconstructing the original design. The textile was worked in an unusual combination of orange and blue wool with a design of octagons enclosing various animals including, deer, a boar, a dog (?) and an antelope. The pattern is also unusual in that the octagons are enclosed within a framework made of a Greek-key pattern alternating with small rosette-like shapes. Another textile in this section is now in the Keir Collection, and again it is in two parts (Keir T.25 <176>; 10.5 x 21.5 cm, fig. 259). The design has been worked in blue and natural and appears to be made up of very stylised animals, possibly dogs, which are enclosed in squares. There are traces of a very stylised vine trail border along the lower edges of these textiles. So far I have been unable to find any parallels for this textile, although the image of a dog can be found on another compound weave textile in the Keir Collection, which was woven in red wool and undyed cotton (Keir T.26, <177>; 16.0 x 39.0 cm, fig. 260).

Strictly speaking the Keir T.26 does not belong in this group as the dog has not been set within an extant framework. There are, however, traces of lines around two sides of the animal, so it would seem reasonable to place it within this section. The dog in the second example is much more clearly depicted and appears to be a running/hunting dog of some kind [62]. Behind the dog are traces of four very large

circular forms which may have been part of a pearl border. But I am unaware of any bird in roundel motif which had circle roundels of this size. Again, I have been unable to find a parallel to this dog.

Due to the condition and size of these textiles it is now very difficult to be certain whether they actually represent hunting scenes or whether they simply depict popular animal motifs set within a geometric framework. Nevertheless, if the following wool compound weave textiles are compared with the layout of the British Museum example and the design of a silk compound weave textile which is now in the Keir collection (see below, the textile was worked in two contrasting shades of brown), then it would seem reasonable to place the above mentioned wool compound weave examples in this section.

There are two silk compound weave textiles in the Keir collection which include hunting scenes. The first example has a series of isolated roundels which contain human hunters alternating with animals (fig. 261; King, 1981, 100, fig. 2). The order is as follows: semi-naked hunter carrying a spear (facing left); leopard charging to the right; semi-naked archer firing at the leopard, and finally a lion facing to right (away from the archer). In the interstices between the circles there are quatrefoil motifs. This piece is very similar in idea and in the depiction of the hunters to the British Museum example mentioned above (BM 21703). There is no direct evidence to suggest, however, as D. King has done, that the design of the British Museum example may have been a "simplified and coarsened version of designs which were originally devised for silk weaving" (King, 1981, 102). The weavers of both textiles may simply have derived their designs independently from a well

known design genre, and then adapted to the limitation of the looms upon which they were made.

The second Keir silk compound weave textile (now in five independent fragments) was apparently purchased in Greece, but according to an account given by F. Spuhler it was found in an unnamed Egyptian tomb (fig. 262) [63]. The textile has a design of elaborate interlacing circles which include, in the largest fragment, the following motifs (from left to right): a couching lion facing left; a hunter running to right and holding a spear or lance; a lion charging towards the hunter and finally an antelope of some kind (identified as an ibex by Spuhler, *ibid.*). The pattern is repeated in a mirror image form between the couching lions on two of the textiles and between the antelopes on two other examples (Spuhler, 1978, 243).

It can thus be seen from both the British Museum (BM 21703) and Keir silk examples referred to above that if certain of the motifs are taken either independently or in pairs (for example the antelope motifs in both of these textiles), then it is possible to regard the pattern as simply representing a popular animal motif in an octagon. If, however, the whole design is present then it becomes obvious that they belong within the hunting pattern genre. It is for this reason, therefore, that the following textiles have been included in this section, although it should be noted that the designs of these textiles are incomplete.

The first example in this 'uncertain' hunting design section is now in the Angewandte Kunst Museum in Vienna (AKM 10053, <3>; 31.0 x 17.0 cm, fig. 263). The design on this textile is made up of a series of octagons which are worked in purple on a green ground. Down the centre of the fragment there is a narrow band worked in blue wool with a white

'overlay' flying shuttle design. The octagons enclose rows of antelopes running to the right, alternating with rows of dogs which run to the left.

Similarly, there is a compound weave textile now in the Royal Ontario Museum, Toronto (ROM 970.364.9, <16>); the largest fragment is 50.0 x 33.5 cm, fig. 264), which has alternating rows of deer or antelopes and dogs in octagons. The ROM textile has been worked in red and natural wool. Interestingly, two large, blue bands intersect the design. These bands have a stylised zig-zag vine trail and leaves design. Set between the blue bands are a series of red bands with an alternating diamond and square pattern.

The last textile in this section is now in the Victoria and Albert Museum, London (VA 2187.1900, <78>); the largest fragment is 17.5 x 11.0 cm, fig. 265). There are two extant fragments, one of which has rows of antelopes facing left followed by a row of dogs facing right. Beneath the dogs there is a row of floral motifs followed by the traces of another row of octagons which have an unidentifiable design. The second fragment is much smaller and has traces of three rows, the top row encloses antelopes of some form facing left. It is followed by a row of boars moving to the right and finally a row of what appears to be an animal motif, but the textile is very fragmentary at this point, so it is impossible to be certain about this detail.

Another group of hunting scenes which have parallels with both Sasanian and Egyptian art are the freestanding hunting designs. All but one of this group include human hunters. The exception is an example which has a red and purple/dark blue design of alternating rows of running lions and leopards. The different felines have been separated by

stylised foliage and tree motifs. The pattern repeats vertically. Two fragments of this textiles are now in the Abegg Stiftung, Berne and the Detroit Museum of Art (AS 462, <143>; 20.5 x 39.0 cm, and Detroit 67.11 <167>; 15.0 x 23.5 cm respectively, fig. 266).

Various fragments of the following textile has survived and are in museums throughout the world [64]. The design is made up of a series of vertically repeating figures and animals in the following order (from right to left): man with an idiotic grin, holding a spear and facing a charging feline, probably a leopard (fig. 267). The feline alternates in vertical rows with a fleeing antelope or small deer which moves to the left while looking behind. The next vertical row is made up of a series of kneeling bowmen, with flowing scarfs or cloaks, who are hiding behind stylised trees. The bowmen are aiming arrows at charging felines (possibly either a lion or a leopard). The second row of felines alternates with running dogs which move to the left. The final row is made up of a line of horsemen holding spears or lances in their left hands. The textile has been woven in red and grey/green in an unusual combination of wool and mohair (respectively).

A similar range of figures are to be found on a compound weave textile now in the Angewandte Kunst Museum, Vienna (AKM T.4882, <1>; 42.1 x 29.0 cm, fig. 268), which was woven in dark brown and beige wool. To the left of the main band there is a broad band of purple repp weave with a stylised vine leave edging. At the right hand side there is a narrow red band followed by a small area of the main pattern and then a corded edge. From right to left, the design is made up of a series of vertical rows of leopards alternating with stylised trees.

The last compound weave textile in this group is now in the Victoria and Albert Museum, London (VA T.133.1935, <105>; 12.0 x 28.0 cm, see fig. 173), and has a series of vertical rows of which only two have survived. The first row is made up of horsemen wearing Phrygian caps and flying cloaks while holding spears of some kind. The second row is made up of animals which appear to be squirrels (?) and boars (?) facing in opposite directions (it is possible, however, that these are actually the same animals, i.e. a dog or boar, which have become distorted due to the condition of the textile). Foliage motifs separate the individual groups of figures. The pattern changes direction near the centre of the textile.

It is clear from the number of extant objects and from surviving written descriptions that hunting themes were popular throughout the Near East. For example, a number of predynastic cave drawings found in Egypt and Nubia clearly depict the hunting of animals and birds [65]. Such scenes are also commonly found on a wide range of objects from both the Roman (Western and Eastern), and Sasanian Empires. These objects include mosaics, wall-reliefs, metal vessels and plates, ivory plaques, as well as other forms of textiles [66]. It is not surprising, therefore, that hunting scenes should also be depicted on a number of compound weave textiles which have been included in this thesis.

One of the questions which has to be asked about these textiles concerns the problem as to the place where they were made and whether there is any information contained within the designs which may give a clue to the answer of this question.. Several aspects of the designs would appear to be of relevance and need to be discussed. These points have been divided into three: (a) general layout of the designs; (b)

details which relate to the hunters (i.e. human hunters), and (c) details which relate to the animals (both hunted and hunters):

(a) As noted at the beginning of this sub-section, the hunting designs can be divided into two types, namely those which are enclosed in octagons or hexagons, and secondly, those which are freestanding. Parallels can be found for both forms of design layout within the field of mosaics.

The use of interlacing circles enclosing a hunting scene can be seen on a hunting mosaic now in the Louvre Museum [67]. The mosaic originally came from Carthage and has been given a late fifth, early sixth century A.D. date (Baratté, 1978, 78). The scene depicted includes spearmen killing boar; horsemen with dogs; swordsmen killing bears and animals killing other animals (*ibid.*, fig. 69). A much closer parallel, however, is a mosaic pavement which was taken from the central nave of the church of St. Christopher at Qabr Hiram, Tyre, Lebanon (*ibid.*, no. 55; Louvre Museum Ma 2230-2236). The design of this mosaic is made up of a series of interconnecting vine trail circles which stem from four jars set in the corners of the pavement. Each of the circles contain one main motif, such as a small putto-like hunter, or an animal. In general the scenes can be read from one circle to another, i.e. a lion in one circle is frightening a deer in the next circle, but they do not actually touch each other. In one pair of circles in the top left hand corner of the mosaic, however, a feline is leaping across the vine trail and is mauling a fleeing deer. The idea of allowing the action within one circle to move into a second is very similar to that on the British Museum compound weave textile mentioned previously (BM 21703, see fig. 256d), whereby a

hunter is shooting an arrow across the edges of the two octagons in order to hit a fleeing lion.

It is not only in mosaics, however, that parallels to birds or animals in vine trail roundels can be found. The theme is well known from the so-called Coptic tapestries and most museums which have collections of these textiles include at least one example [68]. Also relevant is a fragment of a weft-faced compound weave textile in silk which was found in the tomb of St. Julianus, Rimini, Italy (fig. 269; Gerola, 1911, fig. 3). The St. Julianus textile has part of a lion enclosed in a roundel made out of acanthus leaves. According to King there are also nude hunters, but this is not clear from the Gerola illustration (King, 1981, 100). Numerous silk textiles were found in this tomb including an interesting interlace design, but unfortunately the date of these textiles has to be regarded as uncertain. St. Julianus was martyred during the reign of Decius (A.D. 249-251). In his tomb, however, there was a bronze coin from the reign of Constantine 1 (A.D. 306-337), plus a number of other coins which range in date from A.D. 814 to 1649. The presence of these coins can be explained by the fact that written accounts have survived which refer to the tomb being opened at various times (Gerola, 1911, 115). As a result, therefore, while it is likely that the various silk textiles found in the tomb, including the compound weave example, are of an early fifth century date, they cannot be taken as securely dated.

The St. Julianus silk is also very similar in design to two weft-faced compound twill silks which are now in the Newark Museum, New Jersey, U.S. [69]. The design is made up of several individual roundels enclosing isolated motifs of lions facing men with spears and shield, and

leopards facing bowmen. In the interstices there is an elaborate quatrefoil. The textiles were woven in brown and beige coloured silk. According to an article in the *Newark Museum Quarterly* these textiles were found in Egypt, but no further information was given concerning where they were found, or even if they were simply purchased in Egypt and said to have been found there (Anon., 1978, 11).

There is also one of the 'design' papyri from the city of Oxyrhynchus which has a very similar motif, although in this case the design is of alternating sea monsters, sea birds and floral motifs (fig. 270 ; P. Oxy. 63 6B.71/A (2-4) b). It is not clear, however, whether this particular design was meant to be used for a textile or some other media.

The use of roundels enclosing scenes of hunting animals seems to be an artistic convention which has its roots in Western as opposed to Sasanian art. There are many examples of birds and animals in roundels from the Sasanian repertoire, for example, a number of the garments worn by the nobles in the Taq-i-Bustan rock reliefs are depicted as having birds or animals in roundels [70]. But so far I have been unable to find a satisfactory Sasanian parallel to the idea of a series of animals set within roundels which actually carry on a hunt from one roundel to the next.

On the other hand, freestanding hunting scenes are well represented in both Roman and Sasanian sources. Mention has already been made of Roman mosaics from the eastern Mediterranean regions which have similar designs. Reference should also be made to the hunting scenes carved into the rock at Taq-i-Bustan and the stone reliefs at Chahar-Tashan, both of which depict elaborate hunting scenes with horsemen and attendants

chasing a wide variety of animals, although the boar would seem to be the most popular [71]. It would seem difficult, therefore, in the case of the freestanding hunting scenes to attribute the source of these designs to either Roman or Sasanian prototypes.

The Hunters: All the hunters which are depicted on these compound weave textiles are either men with spears who are usually on foot, although some are on horseback, or archers, of whom again some are on foot while others are on horseback. Due to the stylised nature of these textiles it is usually very difficult to say exactly what type of clothes the figures are wearing. It is clear on some of the textiles, however, that some are either semi-nude or nude while others are well dressed. For example, on one of the compound weave textiles now in the Angewandte Kunst Museum, Vienna (AKV 4882, <1>; see fig. 267), the man being attacked by a leopard and the man holding a horse are depicted as being virtually nude, while the spearsman is shown wearing a short tunic which is belted at the waist. On the British Museum textile (BM 21703, <39>, see fig. 256b, d), it would appear that the archer is only wearing a scarf or cloak which floats upwards behind his head, while there is no evidence that the spearsman on this textile is wearing any garment at all.

It is possible that the cloak was used to reflect the relative difference in status between an archer and a spearsman, or perhaps the hunter and his attendants. Such a difference can be found on a number of hunting mosaics, for example, the hunter on horseback in the fourth century hunting scenes at Djemila in North Africa wears a cloak while his attendants simply wear a tunic, similarly, in the Antioch Worcester Hunt mosaic of the early third century A.D. (Dunbabin, 1978, pl. 45; 205,

LXXIX). It should be noted, nevertheless, that this cannot be regarded as a hard and fast rule as a number of exceptions can be found. For example, some of the attendants in the boar hunt mosaic at Carthage (Carthage 31) wear cloaks while others have none, and similarly the servants with dogs in the hare hunt mosaic at El Djem wear cloaks while the horseman has none (Dunbabin, 1978, pl. XI, 22).

It would appear that the spearsmen on another textile in the Angewandte Kunst Museum (AKW 4883, <2>, see fig. 267) was wearing only a loin cloth of some form, while the archer may have been wearing a short tunic with a cloak which sweeps out behind the head of the figure. The clothing details of the men on horseback in this textile are not clear at all. The spearsman on horseback on VA T.133.1935 (<1054>, see fig. 173), is shown with what appears to be a Phrygian cap and a long, floating cloak.

In respect to the range of garments worn by the figures depicted in these hunting scenes it is interesting to note that some figures appear to be nude or semi-nude. The use of such figures, both male and female, is well-attested to in Classical art. Suitable comparative examples can be found in virtually any form of art medium, most notably, sculptures, wall-paintings, mosaics, ivories, as well as textiles. On the other hand when looking at objects with Sasanian style decoration it is clear that the depiction of nude figures, especially males, was not a common feature in the Sasanian repertoire [72]. It would seem likely therefore that the compound weave textiles which have nude or semi-nude human figures were following Western rather than Iranian artistic conventions.

Bow Types of the Hunters: One of the interesting details concerning the archers is the type of bows which they are using. In all cases the bows depicted on these textiles appear to be the composite Scythian bow which had the string attached to the bow several centimetres in from the end, although in some cases they appear to have been slightly distorted due to the nature of the weave (Brown, 1937, 7). This type of bow was introduced into the West during the Hellenistic period (Brown, 1937, 7). They became one of the standard bow forms in the Near East and are depicted in graffiti at Dura Europos as well as in the hands of foreign auxiliaries on Trajan's Column (Rossi, 1971, 124-125). These bows can also be seen, amongst others, in the third or fourth century A.D. Worcester hunting mosaic from Antioch and in the late fourth, early fifth centuries A.D. mosaic called the "Offering of the Crane" at Khéreddine, Carthage [73].

On the other hand bows depicted in Sasanian hunting scenes appear to be of a very different type. These are also of a composite form, but they are of a half figure-of-eight form with flanges attached at an angle. These face backwards towards the archer as opposed to the Scythian form which faces away from him. The bow string is attached to the ends of the flanges. F. E. Brown described this bow as the 'Sasanian' form while W. F. Paterson in his work on Islamic archers described it as the 'Indo-Persian' bow, implying that it may have been derived from Eastern Iranian traditions [74]. Such bows are depicted on a number of sixth and seventh century Sasanian silver dishes, for example, a dish which is in the Iran Bastan Museum, Tehran (acc. no. 1275) which shows a king hunting two lions (Harper, 1978, 33, no. 3). There is a similar dish now in the Hermitage Museum, Leningrad, which

also shows a king shooting arrows at a lion and a boar (Orbelli and Trever, 1934, no. 3).

It would seem feasible to suggest, therefore, that the bows used in these textiles had been influenced by Roman or rather Eastern Mediterranean, as opposed to Sasanian sources. Such a detail could also be used to suggest that these textiles were of a Western, i.e. Eastern Mediterranean origin, but it should be stressed that this detail alone is not conclusive.

Stylisation of the Foliage: Another curious detail concerning some of these compound weave textiles is how the foliage has been depicted, and indeed this may be one method of giving a tentative provenance to some of the textiles. For example, in Egyptian and Syrian mosaics depicting hunting scenes, it is very apparent that an effort has been made to depict naturalistic vegetation and foliage on trees. This can also be seen on a number of the compound weave textiles, although an allowance must be made for certain restrictions imposed upon the designs by the weaving methods. On the other hand it is clear from Sasanian sources, most notably the great rock reliefs at Taq-i-Bustan, that although the artists were more than capable of depicting objects in a naturalistic, and very detailed, manner, they deliberately chose to give a very stylised representation of the foliage (see for example, Ghirshman, 1962, fig. 236). In general, vegetation is only represented by a straight stem which has stylised leaves at regular intervals. Identical and similar depictions of foliage can be seen on a number of the free-standing hunting scenes on the compound weave textiles, for example, Detroit 67.11

67.11 <167> or VA T.133.1935 <105>. One point which is not clear, however, is whether these are western copies of a Sasanian original or whether they are actually Sasanian in origin. As yet, I do not feel that I have reached a satisfactory answer to this question.

Range of Beasts Being Hunted: The range of animals which are depicted as being hunted on these compound weave textiles is very varied: felines, especially lions, lionesses, leopards, boars, antelopes, deer, and monkeys (?). One of the textiles (VA T.133.1935, <105>, see fig. 173), has an animal which appears to be a squirrel, but it may simply be due to the condition of the textile and as such the identification of this particular animal must remain open [75]. Apart from the last named creature all of the other animals are familiar beasts in various depictions of hunting scenes. For example, the third or fourth century A.D. Antioch Hunting mosaics depict the following animals: tigers, deer, hares, lions, boars, hyenas, bears, and an ibex (Levi, 1947, 364-365).

Interestingly, a very similar range of animals is depicted in the great rock reliefs at Taq-i-Bustan, which have been dated to the sixth century. Within this scene boars play a very prominent part, but it is clear from other Sasanian hunting scenes that lions, leopards, boars, antelopes and deer of various kinds, were also regarded as suitable creatures to be hunted [76].

Range of Animals Used for Hunting: Various ancient sources refer to the use of dogs for hunting purposes. For example, there are Pharaonic Egyptian hunting scenes. A notable example is the 18th dynasty Tomb of Ineni, Thebes, which depict the use of hunting dogs (Davies, 1963, 19,

pl. XXI). It is not surprising, therefore, that hunting dogs should appear on a number of the compound weave textiles in this section. One of these textiles is the example now in the British Museum (BM 21703), which has a dog wearing a collar running after an antelope of some form. This scene is comparable with the use of dogs in the hunting mosaics at El Djem (dogs chasing hares; El Djem 1a), and the boar hunt mosaic at Carthage (Carthage 31; Dunbabin, 1978, pls. 21 and 22).

In addition to the use of hunting dogs it would seem that other animals such as lions and leopards were trained in both the Roman and Sasanian Empires to hunt animals. It is difficult, however, to be certain in the depictions of hunting animals on these compound weave textiles whether they represent wild animals which are hunting, or animals which have been trained to hunt with humans against either other animals or other human beings, as in the case of animals used in the amphitheatres. Such a discussion would also seem to go beyond the bounds of this thesis. Therefore, apart from mentioning this point, I do not feel it is necessary to take the suggestion any further.

c Scenes with Human Figures (not including hunting scenes)

All of the compound weave textiles described in this section depict human figures, either as complete forms or simply as human heads.

In some cases these figures are highly stylised, for example, a large compound weave textile now in the Textile Museum, Washington D.C. (TM no number, <273>; 238.6 x 132.7 cm, fig. 271), has two horizontal rows of very stylised human faces. The use of stylised figures set within archways, plus isolated stylised faces within the interstices can be compared with another textile in the Washington Textile Museum (TM

31.11, <266>; 239 x 129.0 cm, see fig. 172). There are, however, a number of interesting variations between the horizontal rows of figures in the latter example. The various types of figures can be divided as follows: (A) female figure with right arm raised and left arm lowered, legs straight; (B) female figure with left arm raised and right arm lowered, legs straight; (C) female figure with left arm raised and right arm lowered, legs crossed at the knees; (D) male figure with right arm raised and left arm lowered, legs straight, and finally, (F) male figure with left arm raised and right arm lowered, legs straight. The order in which these figures appear in the fragment in the bottom right hand corner of the textile, is not the same as that in the top left hand corner of the piece. This would suggest that the textile was originally larger, by at least one arch, than is suggested by either the plate in Trilling's work or the size he gives for this textile, namely, 238.6 x 132.7 cm. (Trilling, 1982, 98-99, no. 109). Between each of the arches there is again a stylised human face.

Another compound weave textile, which is now in the Metropolitan Museum of Art, New York, has a very similar design to the Washington Museum example (TM 31.12, <267>, see fig. 234), mentioned previously. The example has stylised figures set within a series of archways and between each of the arches there is a stylised face. Two rows have survived and in the upper row there is a figure of a woman who appears to be seated on or over a long-tailed animal of some kind, perhaps a feline. Surrounding the figure is a vine trail with leaves. The second row consists of a standing female figure with the right arm raised slightly and the left arm lowered, her legs are crossed at the knees. Again the

figure is surrounded by a vine trail with leaves, but this time there is no evidence to suggest that she is accompanied by an animal of any form.

The compound weave textiles mentioned above which include depictions of dancing figures form a very distinct group, i.e. stylised figures within arches. The second group which has to be mentioned in this subsection is a series of freestanding figures which appear to have been placed in vertically axised rows, rather than the horizontally dominated forms found on compound weave textiles previously described in this section. Two such textiles have been attributed to this second group, namely an example now in the Keir collection which was purchased in Athens, and an example which is now in the Islamic Museum, Cairo, provenance unknown (IM 12,120, <181>; 60.9 x 25.0 cm, figs. 272, 273) [77]. The Keir example consists of several pieces of cloth which have been incorrectly sewn together (20.4 x 12.7 cm; Spuhler, 1978, 241). The central portion includes the figure of a dancing woman looking to her right. The hands of the dancer have been placed to her left (the viewer's right) and they appear to be holding an object of some form. She is supporting her weight on her left leg, her other leg is just raised. It is possible to see that the figure is depicted as semi-nude with the left breast visible and there are traces of an ankle length garment which falls into folds, and the end of a scarf floats over her left shoulder. Unfortunately due to the condition of the textile very few other details are visible.

According to Spuhler's description the scarf which floats upwards over the figure's left shoulder belongs to the dancer, but the section on the right comes from the next figure in the (horizontal) row (*ibid.*). I think, however, that it is more likely that the floating ends belong to

the same scarf. This opinion is based on several factors. Firstly, on various other types of objects, which have figures of dancers with veils or scarfs, it is normal for both ends of the scarfs to be visible. For example, the four dancers on a Sasanian silver vase now in the Hermitage Museum, Leningrad, have their scarfs draped over their elbows (Orbeli and Trever, 1934, no. 45). In three cases the scarf falls downwards, but in one the right-hand end of the scarf rises above the arm. Nevertheless in all of these examples the complete length of the scarf is clearly visible. Secondly, there are traces of a scarf near the figure to the left of the central figure on the compound weave textile. It appears to be the lower end of a scarf which is in a similar position to that associated with the central figure, but the fragmentary scarf does not appear to be connected with the central figure. Lastly, the height of the left-hand scarf is not consistent with the height of the scarf associated with the central figure.

Spuhler suggested that the figures were repeated in both the vertical and horizontal axis (Spuhler, 1978, 241). The suggestion was based upon the presence of small portions of other figures being present within the background of the surviving central figure. While it would appear that this assumption is correct, it should be stressed that very little of the surrounding region has survived and, as it is depicted in the Keir catalogue, the textile has been made up of various pieces sewn together, probably at a later date.

The second freestanding dancing figure to be discussed in this section is now in the Islamic Museum, Cairo (IM 12,120 <181>; height 60.9 cm. width unknown). The textile has survived in a much better condition than the Keir example and as a result far more details are visible. It

has been illustrated in the works of two scholars, firstly, by the American art historian L. Ashton and secondly by the Swedish art historian C. J. Lamm [78]. In Ashton's illustration the figures move to the right, while in Lamm's drawing they are shown moving to the left. The dancer in Ashton's illustration is shown as a red figure on a white ground, but in comparison with other textiles of this type (i.e. weft-faced compound twill weave in wool and cotton), the red on white side of the cloth is generally regarded as being the reverse side (see for example, Harper, 1978, 133, no. 57). It would seem more likely that Lamm has represented the image correctly. As a result, therefore, when I refer to the dancer's right arm, left arm, etc., I have based these comments on Lamm's drawing.

Parts of two dancing figures have been preserved on this textile. The top figure is the better preserved of the two, and is very nearly complete (part of her right arm is missing), while the lower figure only consists of the dancer's head and upper torso and most of her left arm. It is clear, however, from the surviving details, most notably the Jewellery, that although these figures are similar, they are not identical. For example, the necklace of the upper figure is totally different from that of the lower figure, similarly there are differences in the appearance of the scarf and its position in relationship to a pair of clappers which both dancers hold in their right hands.

The upper figure is shown as having hair bound by a circlet of some form with a central star or rosette motif. She also wears large earrings and a tight necklace cum choker. There appears to be some form of button fastening on each of her shoulders, and on her left shoulder there is another star or rosette motif. The fastenings hold in place an ankle

length gown of some form which swirls around the dancer's body. There is no evidence to suggest that their gowns had sleeves of any form. Both dancers are depicted as being large breasted. The left arm of the dancers are held over their heads, while their right arms are held at waist height. There appears to be a heavy bracelet around the left wrist, and a thin bracelet around the right wrist. As mentioned previously, clappers are held in the right hand of both dancers. The left hand of the upper figure has been damaged so it is impossible to know whether there was also a pair of clappers here, although Lamm has reconstructed the figure as being empty handed. Twined around the arms of both dancers are swirling scarfs of which only traces of the right-hand section are still visible around the arm of the upper figure. The weight of the dancer in the upper register is clearly being placed on the left foot while the right foot has been slightly raised. Under her left foot there is a row of heart or petal-shaped motifs

Various elements in both these figures would suggest that these dancers represent various sources of inspiration, rather than one specific origin. Reference should be made to the position of the arms, the large, swelling breasts, the style of costume, the use of a scarf and finally the way in which the hair has been arranged. For example, Sasanian representations of female dancers, both dressed and naked, tend to depict the dancers as having small breasts and waists, but large hips [79]. Similarly, Egyptian and Byzantine illustrations tend to show women with small breasts and more rounded hips (fig. 274) [80]. Indian representations of females, especially dancers, however, clearly show them as large breasted, narrow waisted, and large hipped (fig. 275; see for example, Basham, 1967, pl. XXXIV). It would seem likely, therefore,

that the figure of the dancer on the compound weave textile now in the Islamic Museum was inspired by Indian rather than Western sources. On the other hand the style of jewellery and costume, i.e. a head band with rosette motifs, a choker-like necklace and long flowing robes are more consistent with Sasanian and Eastern Mediterranean forms. Indeed one of the best representations of this form, although of a much earlier date, is to be found at Palmyra and consists of a female bust in limestone which is now in the Louvre Museum [81].

The hair band depicted on the Islamic Museum's 'dancer' compound weave textile also gives the impression of the hair being pulled tightly over the head and then curling down both sides of the face. No indication was given as to the length of the hair. In Indian examples of dancers, the hair is shown as either being long and straight or twisted into elaborate forms, but with the appearance of being straight rather than curly (see fig. 275). The depictions of women in Sasanian objects emphasise the length of the women's hair which is usually shown hanging down in several long plaits. It is worth noting that such a manner is not only confined to dancing girls, it can also be found in depictions of women who would appear to be of noble birth [82]. When moving further westwards, however, women tend to be depicted with hair which was probably long, but which has been coiled, curled and generally manipulated so that it framed the face in an elaborate manner. It would seem, therefore, that the hair style of the dancer on the compound weave was derived from Western rather than Persian or Indian sources.

Another element which would seem to give some indication of the origin of the design is the scarf which is depicted as being entwined around the arms of the dancer. Such scarfs are very common in Sasanian

depictions of women whether they are dancers or not. For example, four female musicians who are depicted on an Iranian silver bowl which is in the Iran Bastan Museum, Tehran (fig. 276; 1333; Harper, 1978, 77-78, no. 26). All of these figures are clearly shown with lang scarfs which are trailed over their shoulders or over their arms in various decorative manners. When used by a dancer the scarfs are frequently shown as twisting and floating in mid air, perhaps to accentuate the movement of the figure. Such scarfs are very rarely to be found with similar dancing figures in either Egyptian or Indian art. See for example the Egyptian dancing figures previously mentioned which seem to be typical for the genre, or the Indian dancers. It should be noted, nevertheless, that scarfs are sometimes depicted in late Roman Egyptian art, but these are usually worn either by sea nyriads or by Venus as she rises from the sea, rather than dancing figures on land, and that the nyriads hold the scarfs above their heads with both hands [83].

One final element which should be considered is the dancer's use of clappers. This form of percussion instrument has been in use throughout the Near East for thousands of years, although it would appear to have been subordinate in Egypt to the sistrum (Marcuse, 1975, 3-8; 87-90). As a result of its popularity, it can be found in numerous depictions of musicians and dancers. For example, there is a large tapestry woven textile now in the Abegg Stiftung which depicts a female dancer (AS no. number, Lemberg, 1973, pl. 4). In this example the dancer, who appears to be heavily breasted, is wearing a long red dress with tapestry insets which are commonly found on Egyptian gowns, namely tapestry insets at the neck, two roundels on the shoulders, two short clavi and a hem decoration of a long gamma-shaped band enclosing two small roundels. The dancer is

not wearing a scarf. In both her left and right hand the dancer is holding paired clappers which are in the same style to those used by the dancer in the compound weave textile under discussion. The pose of the hands however is not the same as in the compound weave example.

Another example of an Egyptian or rather North African dancer can be seen in a late fourth century A.D. mosaic from Carthage called the Mosaic of the Months and Seasons (Carthage, 16; Dunbabin, 1978, pl. XLIII, no. 110). In this example, the dancer is clearly shown wearing a long gown and carries clappers in her left hand; it would seem likely that she was also holding a pair in her right hand, but unfortunately this part of the mosaic is damaged.

Several Sasanian silver dishes and bowls depict female musicians with clappers, and these pieces are directly comparable with the ones held by the dancers in this compound weave textile. One of the clearest comparative examples can be seen on the silver bowl which has been previously mentioned in connection with the scarf (Iran Bastan Museum, 1333; see fig. 276). The musician in this case plays two pairs of clappers, one pair in each hand.

In conclusion, therefore, it would seem reasonable to suggest that the design on this particular textile was intended to depict a Sasanian or Eastern Mediterranean (i.e. Syrian or Mesopotamian) dancer, but that there are definite Indian and Egyptian influences. One result of this 'design mix', is that this textile represents a very good example of, and warning about, the cross-fertilisation of ideas and motifs which is known to have taken place within both the Roman and Sasanian Empires.

d Indistinct Designs Which Include Human Figures

The following textiles have been included because they depict human figures. In each case, however, very little of the figure survives. As a result, therefore, it has not been possible to give detailed information concerning either the intended designs or their possible origins.

i. The first textile in this category is a silk compound weave textile which was found at the pre-seventh century site of Halabiyeh, Syria (fig. 277; Pfister, 1951, pl. XXVII, 99). There are three fragments, but only one of the pieces is in a sufficiently good condition for the main motif to be recognisable. The motif in question is that of a male figure wearing a loin cloth of some kind. The man appears to be either carrying a load or to be running while semi-crouched. The figure was set within a pearl bordered roundel. In this respect it can be compared with the group of birds within roundels described in a previous sub-section. It also leads to the speculation that this figure may once have been part of a pair of confronting men.

ii. The second example in this sub-section is a wool compound weave textile in the Keir collection which has traces of a figure wearing a triangular hat with a knob which is decorated with a series of dots, over the left shoulder there are traces of a cloak or scarf (fig. 278; Keir T.23 <174>; 9.3 x 8.7 cm; Spuhler, 1978, 241, no. 147). The shape of this item, especially with its knob, would suggest that it was meant to represent a Phrygian cap, but this identification is not certain. To the right of the figure there is a stand-like object topped with a curvilinear motif. It is possible that this was meant to represent a sacrificial stand with sacred flames or perhaps a fire altar, but again this is only hypothetical.

111. One of the most curious compound weave textiles to be included in this section comes from the Central Asian site of Niya (<178>, see fig. 130; see Chapter 3). Unfortunately it is also one of the most fragmentary. There appear to be six extant pieces which have traces of the following motifs: Man with curly hair and a large nose riding a donkey; tiger leaping upon something; landscape including a bunch of grapes; landscape with grape vine and a camel's head (?); head with curly hair set within a landscape. There is no recognisable design on the last, and smallest, fragment.

This range of forms is unique within this collection of compound weave textiles, but the various images would suggest that it was meant to represent a naturalistic landscape of some kind. The appearance of the figures, plus the presence of the tiger would suggest that the design belongs within either the Chinese or Central Asian artistic tradition rather than to a more Western development. This point is strengthened by the fact that they were found at Niya.

According to the historian W. Watson, the Chinese regarded the acquisition of the vine (sometime during the second century B.C.) as second only to that of the celestial horses of Central Asia (Watson, 1974, 130). The presence of the vine may therefore indicate that the scene was of an idyllic nature rather than a purely naturalistic representation. If this is correct then these fragments would seem to fit into the tradition of Han landscape depictions. Unfortunately, however, due to the size of these fragments further comparisons would seem to be somewhat tentative and unsatisfactory.

In addition to the bird designs associated with the Tree of Life motif described previously, there are several other compound weave textiles which have mythical connections. These designs have been separated because the first type, illustrated by the birds in roundels, etc., represents general mythical themes. On the other hand, the textiles in the following sub-section seem to represent events which can be related to specific mythical animals.

The first two compound weave textiles to be described in this section are, however, not completely explained, either because the description or illustration of the textile was not sufficiently clear, or because the textiles were too fragmentary. In both cases, therefore, it has not been possible to give a satisfactory identification of the animal which the weaver intended to represent. Nevertheless, for reasons which will be given under the relevant headings below, I felt that they should be included in this sub-section.

The other two compound weave textiles to be included in this sub-section have designs which clearly represent creatures with identifiable mythical origins. The first example comes from within the Iranian tradition, the second from the Classical tradition.

Eagle with Human Head

(The Islamic Museum, Cairo, 13,189, <182>, 49.0 x 23.0, fig. 279)

So far I have been unable to see this textile, but the following description comes from the work by C. J. Lamm on the use of cotton during the medieval period in the Near East (Lamm, 1937).

"Haloed, scalloped head, the curled neck and parts of the breast of a spread eagle; the breast has a fine trellis

design against which the head of a beardless youth, seen front face, stands out. The thick hair, marked with rosettes, is divided in the centre and falls on either side like a heavy wig" Lamm (1937), 34-35.

Lamm also published a photograph of this textile, but the illustration is so dark it is impossible to see clearly the features he described (Lamm, 1937, pl. Va). From his account, however, it would seem likely that this textile belongs within the mythical sub-section of this chapter. Nevertheless, without either a clearer illustration or a personal examination of the textile the origin and meaning of the design must remain doubtful.

Interestingly the description of the Lamm compound weave textile given above would seem to fit an illustration of part of a carving in ivory which, in 1948, was in the Michailidès collection (Michailidès, 1948-49, fig. 23). According to Michailidès the design represented Ganymede being carried to Olympus by Zeus in the shape of an eagle. He also wrote that he knew of "..... une version sassanide du mythe figurée sur un tissu" (Michailidès, 1948-49, 69). Unfortunately, no further details were given in the main text concerning this particular textile. It was, however, depicted in a work by the art historian J. Lessing and from the description of the textile it is clear that it has a resist-dyed or painted design on a cotton (?) ground. (Lessing, 1880, 120). Thus, while it would seem to be a possibility that the compound weave textile which Lamm described had the same or similar eagle and Ganymede design as the example to which Michailidès and Lessing referred to, it cannot be proven at the moment.

Another possibility is that the design is derived from the Iranian legend of Anahita, a female personification of the morning star, being

carried away by a sky eagle representing the coming of day. The identification of these elements was made by P. Ackerman in respect to a silver plate which is now in the Hermitage Museum, Leningrad (Pope and Ackerman, 1938, 882, fig. 306). It would seem equally possible, however, to suggest that the image of a large bird carrying off a young boy was derived from the Iranian legend of Zal [84]. In this story a son with white hair was born to Sam, governor of Hindustan. Because of his strange appearance Sam ordered that the baby was to be exposed. The cries of the child, however, were heard by the *Simurgh*, who carried the baby in his claws to the summit of Mount Elburz. In due time Sam repented of his actions and in a dream was told to search for his son. Sam eventually found the now young man and named him Zal. According to the legend Zal became a hero who was full of wisdom and valour. Without, however, being able to see the compound weave textile, either personally or in a better illustration, it is impossible to be certain which, if any, of these stories should be related to the Lamm description given above.

Lion-headed Bird/Winged Lion (?)

(Royal Ontario Museum, 978.76.742, <25>, fig. 280)

Unfortunately, only three small fragments of this design have survived and it is not clear exactly which mythical animal was being depicted on this compound weave textile. On one of the pieces there is an animal's head which is almost feline in nature. The face is rounded with the lower jaw set well back. The ears of the animal are clearly visible as being small rounded forms. The animal has its neck well stretched out and around it there appeared at first to be a small garland

of some form, but this proved to be a weaving fault. Part of the animal's body is still visible and it appears to have wings. There also appear to be traces of a front leg with claws. It is possible that the claws are clutching at something but this is not certain. Below the animal there is the back and a long, sweeping tail of a second creature, probably feline but again this is by no means certain.

On the second fragment there is another animal which appears to be a running feline. The head, however, is not extant. It is flanked on one side by a band of squares and circles, on another side there is a large four-petalled rosette. The third textile fragment includes part of a design, but it is neither sufficiently large nor clear enough to identify the animal or object.

It is possible that the weaver intended to depict a lion-headed bird or more precisely a lion-headed eagle, which is a well-known motif within the Mesopotamian/Iranian tradition. One of the earliest examples of this form comes from the Second Early Dynastic Period in Mesopotamia (ca. 3000-2340 B.C.), and represents Imdugud, a lion-headed eagle which is flanked by two deer. Another example, is the lion and stag relief in copper which was found at Al'Ubaid and which is now in the British Museum. According to the art historian H. Frankfort, Imdugud as an eagle may have been the embodiment of the black rain clouds and associated with the temple of the Mother Goddess Ninhursag, the Lady of the Mountain (Frankfort, 1970, 60-61, fig. 63).

Another explanation may lie in the idea that the animal is simply a winged lion. Such beasts fall within the tradition of other winged animals such as horses or camels rather than composite mythical animals such as griffins or the *simurgh* [85]. One of the clearest depictions of

a winged lion is to be found on a Sasanian-style silver plate which is now in the Nelson Art Gallery, Kansas City (fig. 281; Ghirshman, 1962, fig. 261). In this depiction the lion is shown stationary with one wing held upright over its back while the other is set at an angle. The feathers have been depicted in a very stylised manner.

Nevertheless, it should be noted that, so far, I have been unable to find an example of either eagles with lion's heads or winged lions depicted in the act of flying. As a result it has not been possible to make a direct comparison between the Islamic Museum's textile and an extant object. On a more personal level, however, I feel the second possible explanation is the more likely, because firstly, it is the simpler, and secondly there would appear to be more evidence to suggest that winged animals were a popular form of iconography during the Sasanian period and afterwards rather than the image of the lion-headed eagle. It should be stressed, however, that I have been unable to find any firm evidence to point conclusively to this explanation.

Eagle with an Anchor Design on its Wings

(Dumbarton Oaks, 36.43 <257>, see fig. 237)

Two compound weave textiles have been published which include the design of an eagle with outstretched wings decorated with anchors; a small goat or deer which is being clutched in its claws [86]. The first was published by C. J. Lamm in 1937 (Lamm, 1937, 41, fig. 21). It was described as being in the Matossian Collection in Alexandria. The Matossian textile was later included in the Dumbarton Oaks Collection, Harvard University (no. 36.43 <257>; 48.0 x 45.0 cm). The second example, which is very similar to the Matossian/Dumbarton Oaks textile, was

published by the American art historian P. Ackerman in 1938 (Pope and Ackerman, 1938, 706, fig. 248). The textile was described as being part of the Mr and Mrs Robert Woods Bliss collection. The Bliss textile, based on the drawing published by Ackerman, appears to have survived in a better condition than the Matossian/Dumbarton Oaks example, although this may simply be due to the Ackerman drawing being more of a reconstruction than an actual representation of the condition of the textile. According to Lamm the measurements of the Matossian/Dumbarton compound weave textile are 48.00 x 45.0 cm (Lamm, 1937, 41). The text underneath the drawing published by Ackerman, however, describes the Bliss textile as being ca. 28 cm in height (Pope and Ackerman, 1938, 707, fig. 248). In footnote 3, page 706, however, the Bliss textile is described as being 47 cm square (Pope and Ackerman, 1938, 706). So far I have been unable to find out whether these textiles represent two fragments of the same piece of cloth or whether they are actually the same textile which has been passed from one collection to another [87].

The Dumbarton Oaks textile can also be related to two compound weave textiles with the same design which are in the Victoria and Albert Museum, London (T.124.1935, <102>; 16.8 x 15.5 cm) and Boston 96.143b (<155>, 38.0 x 11.0 cm, fig. 282). What remains of the design is made up of three bands. The centre band has stylised eagles clutching small animals, possibly hares or rabbits. The band is flanked on either side by rows of rocket-shaped motifs with three circles enclosing crosses on the 'body' of the rocket. To one side on the Boston example there is a broad band in red (repp weave). So far I have been unable to find any parallels for the design and the rockets, although, as noted previously and below, eagles clutching small animals is a common motif.

The eagle was a popular motif in Greek, Roman and Iranian iconography. Interestingly, although falcons and hawks appear frequently in the Pharaonic Egyptian artistic repertoire, eagles are virtually nonexistent [88]. During the Ptolomaic and Roman periods, however, eagles figure more commonly, for example, a spread eagle design in limestone found at Schêch Abâde (Wessel, 1963, 91, fig. 91). But in general these birds do not appear to have become a common or widely accepted motif in Pharaonic or Roman Egypt.

The question remains, therefore, as to whether the eagle on the Dumbarton Oaks compound weave textile belongs to the Classical or Iranian tradition. A clue to this point is given by the bar and bracket or so-called anchor motifs on the wings of the eagle and the presence of small horned animals, goat or deer. Eagles with their prey do appear in Classical art, but so far, however, I have been unable to find a parallel for the presence of the bar and bracket motif. On the other hand parallels for both of these elements can be found within the Iranian iconographical repertoire (these will be given below). This would suggest, therefore, that the eagle depicted on this particular textile belongs within the Iranian tradition.

On a Sasanian bottle-shaped vase in silver now in the Hermitage Museum, there is a depiction of an eagle clutching a small deer which is a very close parallel to the design on both the Dumbarton Oaks and Bliss compound weave textile (Pope and Ackerman, 1938, vol. IV, pl. 216B). There is, however, no evidence of any bar and bracket motif on the wings of this silver eagle.

It has already been shown that the representations of eagles with wide-spread wings can be traced back for many centuries in the Persian

world and that they were considered to be creatures of Ohrmazd (Brunner, 1978, 106). Ackerman has also described the eagle, and in particular the eagle with 'anchors' from the Bliss collection, as being a sky bird whose role was later re-interpreted as a sun bird (Pope and Ackerman, 1938, 706). G. F. Hill wrote that the bar and bracket motif in general was a symbol for thunder, lightning or rain (Pope and Ackerman, 1938, 403; 704/6). Rostovtzeff, however, only refers to it as being a symbol for rain (Bauer, *et al.*, 1932, 111). The goat or deer (both horned animals), which the eagle clutches in its claws represents, according to Ackerman, the moon (Pope and Ackerman, 1938, 706). Thus the whole design is intended to represent the domination of the sky, or the sun, over the moon. Curiously, the Persian moon god, later called Mah, seems to have been either represented as a bull or as a man accompanied by bulls [89]. It would seem strange, therefore, to have the moon being represented as a small horned animal such as a goat or deer.

In general, it would seem unlikely that Ackerman was correct in her assertion that the Bliss textile was meant to represent the conflict between the sun and the moon. By implication it would also be necessary to say the same concerning the design of the Dumbarton Oaks example. Interestingly, there is also a series of Sasanian seals in the Louvre Museum which depict eagles holding birds and animals [90]. On one of these seals the eagle is shown clutching a bear (Gignoux, 1978, 9.38). According to Brunner the bear was regarded in Sasanian mythology as an evil creature who was the offspring of the mortal king, Yann, and a she-demon (Brunner, 1978, 11, 101). So perhaps the concept of a conflict between some other member of the Sasanian pantheon is not unacceptable. Nevertheless, as yet, I remain uncertain about any precise meaning which

can be attributed to the designs of the two compound weave textiles described in this sub-section.

The Chimera Design

(Abegg Stiftung 142 <142>; Rogers and Podmore 2 <287>, see fig. 150)

A particular compound weave textile which would appear to be associated with a Greek legend is now in the Abegg Stiftung (AS 142, <142>). Unfortunately, however, the textile is unprovenanced. The pattern is made up of a series of animals hunting and being hunted: left to right, there is a feline clutching a small horned creature with long tail; a feline catching an antlered stag, and finally the rear end of a beast with a tail in the form of a snake and an animal's head in the centre of its back. Unfortunately, the rest of the textile is missing, and so it is not possible to see the front of the animal. Annoyingly, this area of the design is also missing on a compound weave textile which was in the stock of Rogers and Podmore, dealers in antique carpets and textiles, Brighton (<287>, present whereabouts unknown). There is, however, a mythical creature called a *chimera* which is depicted in both Greek and Roman art as being a lion-headed animal with a snake for a tail and a goat's head in the centre of the animal's back. It would seem likely therefore that the animal depicted in the Abegg Stiftung/Rodgers and Podmore textile is actually a *chimera*.

According to Homer the *chimera* was of divine origin, and was raised by the gods as a plague for mankind (Homer, *Iliad*, 6, 181). It, or rather, she, was the offspring of Hesiod/Triphead and Echidna. She was later to mate with Orthos to produce the Sphinx [91]. The *chimera* was eventually destroyed by the Corinthian hero Bellerophon riding the

winged horse Pegasus. The origins of the *chimera* legend appear to lie in the Lycian people in Asia Minor and can be traced back to at least the seventh century B.C. [92]. As indicated above it was a popular motif with both the Greeks and the Romans. One of the earliest representations of the *chimera* is on a coin from the Peloponnesos which dates from the mid-fifth century B.C. (Kraay, 1976, 98-99). At Olynthus in Macedonia, there is a late fifth century B.C. pebble mosaic which depicts the killing of the *chimera* by Bellerophon [93]. The wide spread popularity of the *chimera* image can also be seen by the distribution of '*chimera* mosaics', for example, they have been found in places as far apart as Mary St. Hinton, England (4th century A.D.); Autun, France (1st-3rd centuries A.D.); Coimbra, Portugal (late Roman); Ravenna, Italy (5th-6th centuries A.D.), and finally Constantinople (5th century A.D.) [94]

The popularity of the image can also be seen in the range of objects it was depicted upon. Reference has already been made to coins and to mosaics, but it was also used on pottery, silverware, ivory and, of greater interest in respect to this thesis, on textiles [95].

With the spread of Christianity the *chimera* motif appears to have died out to a certain extent, although, according to P. Amandry, there was a period of popularity during the fourth and fifth centuries, perhaps as a form of pagan revolt (Amandry, 1956, 157). A popular revival of the Bellerophon/*chimera* image during the fifth century is certainly indicated by the mosaics and other objects which have been mentioned previously in this section, and it is tempting to speculate that the compound weave textile with the *chimera* which is now in the Abegg Stiftung is of a similar date. Interestingly, the image of Bellerophon killing the *chimera* still occasionally occurred during the

Medieval and Renaissance periods in Europe. A suitable example to illustrate this point is a painting by the Flemish artist Rubens (1577-1640), called *Bellerophon on Pegasus killing the Chimera with a lance*, which is now in the Musée Bonnat, Bayonne, southern France (Gerson and Kuile, 1960, 159).

f Christian Iconography

Amongst this section of compound weave textiles there is a small group of pieces which have obvious Christian connotations. One of these pieces has already been discussed in a previous chapter, namely the *orans* figure which may represent the Egyptian saint, Menas (National Museum, Stockholm, 16,1939, <245>; see fig. 146). Therefore, apart from mentioning its existence in this section it will not be referred to in detail. The other textiles within this group consist of a series of five fragments which depict scenes from the early life of Christ.

(A) A series of compound weave textiles in red wool and undyed silk which have scenes from the early life of Christ are now in the Metropolitan Museum of Art, New York (90.5.11, <260>, fig. 283; Dimand, 1925, 57, fig. 5). The American art historian, M. S. Dimand, described these pieces as coming from a band which "was probably used as a border of a garment which may have belonged to a Coptic priest" (the use of compound weave cloth for garments will be returned to in the next chapter; Dimand, 1925, 57). According to Dimand these pieces were a gift to the Museum from G. F. Baker, but there is no indication as to where they may have originally come from, although Dimand suggested that they may have come from Egypt or Syria. Dimand's 'provenance' was based upon

the resemblance of the bands to certain unspecified ivory objects of the fifth and sixth centuries (Dimand, 1925, 57). Some clues, however, concerning both the origin of these textiles and their possible date can be obtained from the textiles themselves. The designs of the textiles have come from various sources, namely the description of the Nativity given in the Gospels according to Matthew (first century) and Luke (first to second century) and later descriptions given in the Apocryphal gospels of James (second century) and the Pseudo-Matthew (eight to ninth century) [96]. With respect to the last work cited, it should be noted that it cannot be used to give a *terminus post quem* date to the images used on the following textiles, as ^{the} Pseudo-Matthew appears to be a collection of oral and written traditions collected over many centuries (James, 1955, 70).

The order in which the textiles have been described has been based on a chronological order of events. An indication has been given in the following descriptions as to which Gospel text was being followed.

1 The Annunciation: (Luke, 1:26-45): Mary is depicted sitting in a high backed wicker chair, in her hand she holds a spindle aloft; facing Mary is the Angel Gabriel (damaged). According to Mark an angel came to Joseph in a dream to announce the coming events. In the Gospel according to Luke, however, the Angel Gabriel is described as appearing to Mary in a waking state. It would seem likely, therefore, that the scene depicted on the relevant Metropolitan Museum compound weave textile was based on the account given in Luke. The scene is also to be found in association with many Christian objects, especially from the fifth and sixth centuries, for example, in the fifth century mosaic in the Santa Maria Maggiore, Rome. In this mosaic Mary is shown working at the task

of spinning, possibly in accordance with a description in the second century Apocryphal Book of James (*Protoevangelium*), which describes Mary as spinning purple and scarlet yarn in order to make two veils for the temple at Jerusalem (Book of James, XI.1; James, 1955, 43). According to Coche de la Ferté the idea of Mary being occupied at an apparently humble task is mitigated by the fact that she is dressed like an empress (Coche de la Ferté, 1982, pl. 29). There is a series of large-scale resist dyed textiles now in the Victoria and Albert Museum which are believed to have come from Akhmim and which have been given a fifth, sixth century date [97]. All of these textiles depict various New Testament scenes and were probably intended to be used in a church, perhaps as hangings or curtains. One of the scenes includes the figure of Mary spinning, with the Angel Gabriel standing in front of her (Victoria and Albert Museum, accession number: 723-1887). Another example of an Annunciation scene which is of relevance to this thesis is a silk compound twill example which is now in the Vatican Museum and which has been given an eight/ninth century date and is believed to have been woven in Constantinople (Beckwith, 1974, 347-348). In this example, however, the figure of Mary is shown without a spindle although just to her left hand there is a basket which may have been used to suggest that she was of an industrious nature.

11 The Nativity (Luke, 2: 6-21): the relevant scene depicts the Christ Child lying swaddled in the manger surrounded by an ox, an adult donkey and a young donkey. In the left hand corner there are tree-like motifs and between the heads of the animals, there is the star. The ox and donkey are not mentioned in either Matthew's or Luke's Gospel. They do occur, however, in the Pseudo-Matthew Gospel and appear to have been

included in order to fulfil a verse in the Old Testament book of Isaiah, "The ox knows its owner, and the ass its master's crib" [98]. The scene is shown as if the viewer is looking from an angle above the manger. A very similar arrangement, i.e. a child in a manger surrounded by a donkey and ox with a star between their heads can be found in many other objects with a Christian function, for example, a sixth century silver and gilded censer in the Antalya Museum [99].

iii Bathing of the Child: In this scene Mary is shown lying on a Roman style couch with the Christ Child in front of her. Only the upper half of the Child is shown and He appears to be in some form of large bowl or krater. The scene has been interpreted by Dimand as showing the Bathing of the Child (Dimand, 1925, 57). Although the event in the Nativity of Christ is not described by either Matthew or Luke, it does belong within the iconographical tradition of the Eastern Church (Hall, 1979, 220). One of the first references to the bathing of the Christ Child and the presence of midwives at the Nativity was made by Clement of Alexandria during the mid-second century A.D. (Clement of Alexandria, *Strom.*, vii, 93). It also occurs in the Book of James who describes how an un-named midwife was found by Joseph and brought to aid Mary with the birth of her child (Book of James, XI:1-XIX:2). The midwife rejoiced in the birth of Christ and told a friend called Salome. Salome doubted the authenticity of the birth and as a result her arm withered. Nevertheless, on touching the swaddling clothes of the Christ Child, however, her arm was restored. In the Pseudo-Matthew Gospel reference is made to the presence of two midwives at the birth of Christ, Zelomi (or Semele) and Salome (Pseudo-Matthew, XIII)

One of the earliest extant representations of the Christ Child being washed is a limestone bas-relief which is now in the Coptic Museum, Cairo (no accession number available). In this depiction the Christ is shown in a large krater-like bath supported by a woman, presumably 'Zelomi', who sits at the left hand side of the relief (Wessel, 1963, fig. 92). A second woman, perhaps Salome, is shown on the right hand side. It has been suggested by the German and Swedish art historians A. Herrmann and P. J. Nordhagen (respectively) that the origin of these scenes, and in particular the presence of the two midwives and the use of a large krater-like bath, was directly derived from scenes depicting the Washing of Dionysus [100]. Herrmann also refers to a fifth/sixth century mosaic found at Baalbek, Syria, which represents the first bath of Alexander which includes these elements [101].

The popularity of the Christian version of the 'first bath' image can be illustrated by the fact that it was still in use during the Medieval period. For example, there is a mid-thirteenth century marble pulpit by Nicola Pisano, in the Baptistery at Pisa, which has been decorated in the 'Greek manner' (Gombrich, 1972, 49, fig. 135). The panel includes a scene showing the Annunciation, Nativity and Shepherds. In the lower centre of the picture are the two midwives washing the Child.

iv Arrival of the Magi or Shepherds (Matthew, 2:1-12; Luke, 2:8-20): only part of this scene has survived and it shows, according to Dimand, the arrival of the Shepherds (Dimand, 1925, 57). Yet it is possible to disagree with Dimand's identification and to describe it as the arrival of the Magi (the term Magus originally referred to a Persian astrologer or priest). Only one figure has survived in detail and he walks from

left to right and is wearing a Phrygian cap, long cloak and gown of some form. It would seem at first glance that the weaver was trying to represent the Shepherds, as suggested by Dimand. But when looking at depictions of shepherds, or even Christ as the Good Shepherd, in Egyptian and Syrian objects, including textiles, from the early Byzantine period, then the shepherds are normally shown wearing simple Roman style tunics with short capes and no headcovering [102]. On the other hand, as the Magi were described as coming from the East, it would seem more likely that they would be shown wearing clothes which were known to be 'Eastern', and therefore somewhat exotic, in origin. A major deity which passed from Persian to Roman mythology, namely Mithras, is also normally depicted wearing this form of costume, for example, a wall painting and a bas-relief from the Mithraeum at Dura Europos both show the god wearing a Phrygian cap [103].

One of the earliest representations of the Magi is a second century A.D. painting in the *Capella graeca* in the Priscilla Catacombs in Rome [104]. Unfortunately it is not clear in Wilpert's illustration whether the Magi are wearing an 'oriental' costume or not. According to Leclercq's description of this scene, however, "Les mages s'approchent avec empressement, vêtus du costume oriental qui leur est propre, sans le manteau pourtant" (Gabriel and Leclercq, 1907-1953, vol. 2.2, col. 2096). It would appear, therefore, that they were depicted in the Persian manner.

The exotic nature of the Magi's clothes is stressed in another sarcophagus which was found at Castiliscar in Spain and which has been dated to the fourth or fifth century A.D. (Navel, 1929, 162-172, pl. 1). Along one side of the sarcophagus there is a representation of the early

life of Christ. Fifteen figures are included in this depiction and all but three are dressed in formal Roman gowns and tunics. As may be expected, the three who are dressed in a different manner are the Magi, who wear Persian dress. Another example, of the use of this form of 'exotic' costume for the Magi can be seen in the late fifth/sixth century Sant'Apollinare Nuovo mosaic at Ravenna (see fig. 284). In this case, however, the Magi belong to the decorative border on the hem of the Empress Theodora's cloak. It is clear from this depiction that the Magi are dressed in Persian costume [105].

In conclusion, therefore, I would like to suggest that it would seem more likely that the figure depicted on this compound weave textile was meant to be a Magus rather than a Shepherd.

v Epiphany/Adoration of the Magi (Matthew, 2: 1-12): In this scene Mary is shown sitting in a high-backed wicker chair and holding the Christ Child out in front of her. Behind her chair there is the figure of a man wearing a Phrygian cap and holding a large 'shepherd's' crook. Dimand has interpreted this scene as being part of the Adoration of the Shepherds (Dimand, 1925, 57). Another possibility is that it shows the presentation of the Child at the Epiphany.

The Epiphany is one of the most important festivals in the Eastern or Orthodox Church. It takes place on January 6th, and celebrates the purification and naming of Christ [106]. The Epiphany festival is sometimes also referred to as the Baptism of Christ, but perhaps 'Naming' is a better description, so that the event is not confused with the later baptism of Christ by John the Baptist which took place when Jesus was at the beginning of his ministry (Matthew, 4, 13-17; Luke, 3, 21-23). The origins of Epiphany seem to lie in the second century as

Clement of Alexandria († ca. 217) refers to the Gnostic sect of the Basilideans observing this particular festival. According to F. L. Cross the Magi played an increasingly important role in this feast until they became second only to Christ and Mary (Cross, 1974, 281).

Using this information, plus that given previously concerning the costume of the Magi, it would seem unlikely that Dimand was correct in his interpretation of the scene as being the Adoration of the Magi. On the other hand either of the other two events described above, i.e. the Adoration of the Magi or the Presentation of the Child at the Epiphany, would seem to be possible. It is unfortunate that not more of the scene has survived, so that a more satisfactory conclusion could be reached.

g Compound Weave Textiles with Tapestry Insets

Reference has been made in various parts of this thesis to a small group of compound weave textiles which have tapestry insets. It would seem reasonable at this point, therefore, to give some further details concerning both the nature of these insets and the designs associated with them. Four textiles have been included in this group, of which three are now in the Royal Ontario Museum, while the fourth example is in the Victoria and Albert Museum.

ROM 968.323.1 <14>, see fig. 147). This is one of the largest textiles in this group and measures about 125 x 100 cm. The compound weave ground was woven in red and dark blue and has a design of a stylised floral pattern within connecting circles. There are quatrefoils in the interstices. There are two tapestry insets. The first inset is a fragmentary square woven in blue and natural, which appears to have a design of circles surrounding a central panel (shape unknown). The

circles have been arranged in groups of three and the two outer ones enclose putti, some with wings. The centre circle contains a stylised floral motif. The rest of the design has been destroyed. The second tapestry inset is a long band which has a design of standing male figures alternating with animals set within decorative roundels. The first man carries a shield in one hand and what appears to be a spear in the other. He is wearing a short tunic which appears to have long sleeves. The second figure is similarly dressed, but he appears to be holding one, possibly two staffs. The third figure is too fragmentary to distinguish specific details. The animal between the first and second figure is a lion. The other forms are too fragmentary to be identified.

ROM 980.78.15 <28> (see fig. 230; 47.0 x 45.0 cm): The compound weave ground of this textile has a design of rampant lions enclosed in a grid. The tapestry inset is again fragmentary, but it is clearly a square which has an outer border enclosing stylised birds with outstretched wings and a central design of two naked figures set within a roundel. Around these figures there are vine leaves which come from the edge of the circle and at their feet there is a vessel of some kind with a large oval mouth. On either side of the vessel there are two animals which appear to be stylised lions. In the interstices between the roundel and the square there are small hares. The tapestry panel was worked in dark bluish purple.

ROM 970.364.9 <16> (see fig. 264; the largest piece is 50.0 x 33.5 cm): There are only small traces of a tapestry inset in one area of this compound weave textile. Due to the size of these traces it is now impossible to be certain which design was originally being represented.

VA 243.1890 <71> (72.0 x 51.0 cm) and 780.1893 <76> (73.0 x 52.0 cm; see fig. 79): Both of these textiles are on display and appear to make up the two sides of a cushion cover of some form (See Chapter 11). It should be noted however, that these pieces were not acquired at the same date and there appears to be no information concerning their origins. The compound weave ground has a design of small stylised birds in ornate roundels worked in two shades of brown. Each of the textiles has two tapestry squares set near a corded edge. The squares of 780.1893 are woven into the background cloth. These have been worked in purple wool with an intricate interlace design of circles which have been highlighted in naturally coloured flax using a 'flying shuttle' or overlay technique. The two squares on 243.1890 are somewhat different in that only one of the squares is in purple and that has been sewn into the cloth, while the other square, although woven into the ground cloth, has been worked in dark blue wool. Again the designs are of an intricate interlace design of circles, highlighted by an overlay thread in natural.

h Woven Inscriptions

A small number of the compound weave textiles included in the catalogue have woven inscriptions [107]. Unfortunately only one of these pieces came from an archaeological excavation and the circumstances of its discovery make it necessary to regard it as of a dubious *terminus ante quem* date. It is possible, however, to give it a *terminus post quem* date. The textile in question was found at Qasr Ibrim in Nubia and has a mirror image design which repeats the name of Allah, (80T/23, <55>, see fig. 122). It would seem reasonable therefore to

suggest that the Qasr Ibrim textile can be dated to no earlier than the mid-seventh century A.D. [108].

The unusual nature of the background weave (2/2 tabby weave), has meant that several other textiles from the site have been classed with this textile. Unfortunately all of these pieces are very fragmentary and so far it has not been possible to reconstruct the design, or possible designs, in a satisfactory manner (see figs. 114, 122, 13, 124).

Three of the other compound weave textiles with inscriptions are now in the Victoria and Albert Museum, London (VA T.79.1934 <95>; 84, 84a.1937 <108>), while the fourth piece is in the Cluny Museum, Paris (Cluny 22.481, <131>; figs. 285-286). All of the inscriptions are in Arabic, so again it would seem likely that they date from after the widespread movement of the Islamic armies during the mid-seventh century A.D. Unfortunately, apart from the *Allah* textile, the length and condition of these inscriptions has meant that it has not been possible to arrive at a satisfactory translation or interpretation of the inscriptions.

Another source of information concerning these textiles lies in the letter forms, namely Kufic (Schimmel, 1984, 3). The Kufic script was a popular calligraphic form from about the seventh to the eleventh century A.D. and may have been connected with the Iraqi city of Kufa (*ibid.*). There are numerous forms of Kufic but it would appear that the script used for the VA T.79.1934 and Cluny 22.481 (possibly originally from the same textile), was of the horned form which was in use during the eighth and ninth centuries, but it should be noted that this identification is not certain [109].

It could be argued that the comparison between a woven form and the calligraphic styles associated with books, stone carvings, etc. are not valid due to the different characters of the items. Other compound weave textiles, however, of contemporary date, or of even earlier origin are sufficiently curvilinear to indicate that the potential for weaving in a more rounded form did exist during this period.

Apart, therefore, from being able to say that this group of textiles belongs within the Islamic tradition, it would appear that comparatively little can be said about the inscriptions or their appearance.

When considering the weight, construction and fibres used to produce these textiles, however, it is possible to suggest that some of them may have originally formed part of a number of rugs or carpets of the *zilu* type. The problems associated with this type of rug/carpet will be discussed in the following chapter. As a result, therefore, I feel that apart from mentioning the possible connection between these compound weave fragments and the *zilu* form, it would seem unnecessary at this point to present a detailed discussion.

Footnotes

- 1 Lamm and Charleston (1939), 193-199.
- 2 In the same year as the Lamm and Charleston article (1939), but apparently written at a slightly earlier date, Crowfoot and Griffiths published an article which described the structure of "two-faced" compound weave textiles; Crowfoot and Griffiths (1939), 40-47.
- 3 See the introductions to Chapters 2 and 3 for my use of these terms. Comments made by Brendel in his *Prolegomena to the Study of Roman Art*, are particularly relevant (Brendel, 1979, 3-9). See also Brilliant (1974), 8 and Smith (1983), 117.
- 4 Dunbabin (1978), 119, 134, 258. See also Levi (1941), 251-191
- 5 For example, a mosaic in the St. Eleutherios Church, Athens which has been dated to the second-first centuries B.C. (Levi, 1941, 274.
- 6 See for example, Hanfman (1951).
- 7 See for example comments made by Brilliant (1974), 8, 215 and Hannestad (1986), 261, 266.
- 8 Meister (1970), 257, figs. 1, 2, 46.
- 9 Harper (1979), 119-140; Smith (1983), 158. See also Meister (1970); Geijer (1963), 3-36; Peck (1969), 101-146.
- 10 Meister (1970), 255-267; see also Chapter 5.
- 11 Petrie (1889), 12-13; the textiles were dated on coin evidence to ca. A.D. 340. These textiles are now in the Ashmolean Museum, Oxford, acc. nos, 1888-802 A-G. The textiles are currently being published by H. Whitehouse and myself.

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- 12 Asterius, *Homilies*, 1, The Rich Man and Lazarus. My thanks to Dr. J. P. Wild for providing me with a translation of the text, which was based on Datema (1970), 2.3-4.2.
- 13 The relief is now in the Louvre Museum, A.O. 1557. See also Ghirshman (1962), 77, fig. 89.
- 14 Some differences between Roman and Persian style costume will be discussed in greater detail in the next chapter.
- 15 See for example, Thompson (1967), no. 21; Trilling (1982), nos. 23.
- 16 Anon. (1982), 45, no. 23; Dalton (1921), 148-149, fig. 99; Cabrol and Leclercq (1931), 1060.
- 17 Vogelsang-Eastwood and Whitehouse (forthcoming); Vogelsang-Eastwood (in press). See also Thompson (1971), 64, no. 27; Du Bourget (1964), 63, fig. B1.
- 18 Lassus, 1938, 98; Levi, 1947, 436; Germain, 1969, 54; Smith (1965), 95-116.
- 19 Blake, (1930), pl. 19:4; Ovadiah (1980), fig. 110. pl. xl.
- 20 See for example, Hayes (1984), 199, fig. 336. This type of design was also painted onto a stone which, according to the accession card with it, is of a late dynastic date (precise date unspecified; Egyptian Museum, Cairo, no number, Room 24, case 9). Its exact purpose does not appear to be known, but stones with drawings upon them are not unknown from the Pharaonic period and it would appear that some of these were used as preliminary sketches for tomb paintings. See for example, Peck and Ross (1978), nos. 121, 131 and 132.
- 21 Rutschowskaya (nd), 4, fig. 3.
- 22 Lengyel and Radan (1980), 96, fig. 60.

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- 23 See also Alcock (1963), 186, no. 5; Green (1968), 174; Leeds (1936), pl. XVI and Harden (1956), 149.
- 24 Bowie (1959); Scheller (1963), 88-93.
- 25 See also, Scheller (1963), 46, figs. 2 and 3.
- 26 See for example, Schubert (1908/09); Roberts (1938), 188-91. See also unpublished thesis by E. Bassi, *Elenco Alfabetico Generale dei Papiri figurati* (Rome University, 1986), which gives a list of many published and unpublished papyri in various collections throughout the world.
- 27 For example, P. Oxy. 8 1B 199/H (1-2), e (i) and 65 6B 31/M (3)(a).
- 28 For example, P. Oxy. 1 1B.123/C (c); 12 1B.138/K (a); 25 3B.58/J (iii); 18.2b.68/D (1-2)b and 9.1B.177/G (h).
- 29 See also Chapter 9.
- 30 TM 71.115; Trilling (1982), 79, no. 80. See also TM acc. no. 71.104, no. 82 in the Trilling catalogue.
- 31 Du Bourget (1964), 264-265; see also textiles nos. F44, X 4827.
- 32 See footnote 9.
- 33 Two of the largest compound weave textiles recorded in this thesis are 82.0 x 139.0 cm and 238.6 x 132.7 cm in size (British Museum 21703; Textile Museum 31.11, respectively). See also Chapter 9 and Table 18.
- 34 See for example, a tempera painting by B. Riley, called *Movement in Squares*, illustrated in Barrett, (1971), 111.
- 35 See for example, Becatto (1965); Dunbabin (1975), 6.
- 36 Victoria and Albert Museum T.192.1976 <116>; Norwich Castle Museum 58.19.(39)a <120>; G.M.E.-V. <172>.
- 37 MAS 560; 23.0 x 8.0 cm; Stein (1921), 265.

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- 38 See Chapter 2, figs. 104-107.
- 39 See Chapter 2, figs. 111-122.
- 40 See for example, Kitzinger (1946b), pls. 170-178; du Bourget (1971), 65; Harper (1978), 123
- 41 For a more detailed discussion concerning this piece plus other textiles found in the tomb of St. Paulinus, see Chapter 8.
- 42 Braun (1910b), col. 347-350; De Jonghe (1978), 30, Wild (1970), 12.
- 43 Gerola (1911), 223, fig. 6; King (1981), 102.
- 44 Muthesius (1984), 247-248; Gerola (1911), fig. 8.
- 45 Granger-Taylor (1983), 170, fig. 11.
- 46 Lassus (1975), 327-338, fig. 3, pl. CXLIX; Kiss (1973), 28, pl XIII, fig. 1.
- 47 For example, Trilling (1982), nos. 83, 84, 89 and 101, especially 87.
- 48 See VA T89.1922 <82>; ROM 978.76.273 <22> and Keir no number <173>. See also a fourth example which has been included in the figurative section as the dominant pattern is a series of animals enclosed by a Greek-key pattern framework, Abegg Stiftung 906 <146>.
- 49 See Chapter 9 for other examples of mirror image repeats.
- 50 See Chapter 11 for a possible explanation of the loops.
- 51 Cathedral inventory no. XII:9, board no. T.5G; c. 12.0 x 14.5 cm.
- 52 See for example Avi-Yonah (1975), the mosaic of the Synagogue de Ma'en.
- 53 For example, the Scandinavian "Tree of Wisdom", Yggdrasill on which Odin hung for nine days and nights (Jones, 1973, 317).
- 54 Pfister (1938), 40-47; Harper (1978), no. 19 and 20; Brunner (1979), 104-110.

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- 55 See for example, Ghirshman (1962), 187, fig. 229.
- 56 Lamm (1937), 49; Volbach (1932), no. 85.
- 57 See for example, Brunner (1979), 104-105.
- 58 Lamm (1937), 42, fig. 22; 35.0 x 12.5 cm, present whereabouts unknown.
- 59 Lamm (1937), 42; see also Muthesius (1984), 237ff.
- 60 See for example, Lamm (1937), 39. See also Harper, 1978, 130-131, no. 55; Muthesius (1984).
- 61 See also FitzWilliam Museum T36 <35>; Victoria and Albert Museum, 1286.1888 <68>; T.188.1976 <114>; Ashmolean Museum 1888.743 <121>; 1888.748 <122>; Cluny Museum 13.157 <127>.
- 62 For a discussion concerning the use of dogs during the Roman Empire, see Toynbee (1973), 102; Aymand (1951), Chapter XII, *Essai sur les chasses romaines*.
- 63 Spuhler (1978), 243; see also King (1981), 100, fn. 14.
- 64 The other examples are AKM T.4882 <1>; AS 488 <144>; Lyons 910.11.2 <189>; Leningrad no. 36, J.6682 <S.35> <200>; Röhss Museum 348-30 <201>; Philadelphia 33-50-1 <265>.
- 65 See for example, Myers (1958), 131-141.
- 66 For the Mosaic of Megalopsychia, see Levi (1947), 323-345, pl. LXXVIII; Weitzmann (1977), 87; for a bronze plate see Louvre Museum (Br. 3448); two silver plates in the Hermitage Museum, Orbeli and Trever (1934), nos. 10 and 12, and Kitzinger (1946), fig 30 for a tapestry now in the Dumbarton Oaks Collection (39.12).
- 67 Ma 1788, 1789, 2999. Baratté (1978), 76-77, no. 38.

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- 68 See for example, Haags Gemeentemuseum, The Hague: Anon. (1982), nos. 65, 73; Simeonstift Museum, Trier, Nauerth (1978), 33, 41; Washington Textile Museum: Trilling (1982), nos. 27, 29, 53.
- 69 Newark Museum 77.29, 77.39; Anon. (1978), 10-11, no. 15A, B. Additional pieces with the same design are in the Royal Scottish Museum, Edinburgh, 1957.299 and in a private collection in Toronto, Canada (Anon, 1978, 10).
- 70 For example, Harper (1978), 120-124; Peck (1969), 101-146 and Meister (1970), 255-267.
- 71 Fukai and Horiuchi (1969-1972); Ghirshman (1962), figs. 229 and 236.
- 72 Female nudes and semi-nudes are much more common. For example, see the dancing girls on an oval dish with a naked dancer, now in the Walters Art Gallery, and a silver ewer with female figures now in the Metropolitan Museum (Ghirshman, 1962, fig. 258; Harper, 1979, no. 18, Met. Mus. 67.10). Male prisoners, who are often shown naked in Egyptian and Roman depictions, while prisoners in Sasanian depictions are normally clad.
- 73 Levi (1947), 363-365; Dunbabin (1978), no. 35, pl. XVI
- 74 Brown (1937), 9; Paterson (1966), 81-82, pl. III.
- 75 Various Classical writers refer to the presence of squirrels, but they seem to have been regarded as pets, rather than animals suitable to be hunted. Martial, *Epigrams* V 37:13; Pliny, *Natural History*, VIII 58:138; XI, 99:245. See also Toynbee (1973), 293.
- 76 Such depictions may also belong to the realm of symbolism, i.e. the dead and dying lions representing defeated kings or usurpers, etc. (Harper, 1978, 33).
- 77 Spuhler (1978), 241, no. 147a; Ashton (1935), 26-39, pl. B.

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- 78 Ashton (1935), pl. B; Lamm (1937), fig. 20.
- 79 See Orbeli and Trever (1934), no. 45; Ghirshman (1962), fig. 258.
- 80 du Bourget (1971), 60, fig. 5, pl. 88; Volbach (69), figs. 4, 9, 32; Beckwith (68), figs. 29, 62, 124.
- 81 Louvre A.O. 2194; Ghirshman (1962), fig. 94.
- 82 Compare for example the female figures in Harper (1978), 75, detail of no. 25 (silver plate from Tehran Museum, 1333), and page 78, no. 25 (a silver dish now in a private collection).
- 83 See for example, a fourth century stone relief with nyriads now in The Louvre (Anon, 1964), 77, no. 46, acc. no. E80.
- 84 My thanks to W. J. Vogelsang for the information about the Iranian legend.
- 85 For an example of a Sasanian depiction of a flying horse example see the so-called *Dioskuroi* or Sons of Zeus silver plate now in the Metropolitan Museum of Art, New York (63.152; Harper, 1978, 42-42, no. 8). Also Gignoux's work on Sasanian seals especially pl. VI 3.25, pl. VII, 3.33 (Gignoux, 1978). A winged camel is depicted on a silver ewer now in the Hermitage Museum (Orbeli and Trever, 1935, no. 49).
- 86 Another "spread eagle" compound weave textile is now in the Victoria and Albert Museum, London (T.124.1935 <101>; 35.0 x 16.0 cm). It is, however, very stylised and there is no evidence of a child.
- 87 I have written to the curator of the Dumbarton Oaks Collection concerning this point, but so far I have received no reply.
- 88 Various species of eagle were mummified during the Pharaonic period in Egypt, but it would appear that none were depicted on tomb paintings etc. See Houlihan (1986), 140.

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- 89 See for example, Harper (1978), 149, seal no. 74.
- 90 See for example, Gignoux (1978), 4.110, pl. XV.
- 91 Roes (1934), 22; Amandry (1956), 155; Warren (1968) 129-144.
- 92 The coin was a silver stater from the Sicyan mint, which had a *chimera* on one side and a dove on the other (Kraay, 1976, 98-99).
- 93 Robertson and Graham (1938), 284-290. For a discussion and short list of Proto-Corinthian, Etruscan and Luristan depictions of *chimera*-like animals, see Roes (1934), 21-25.
- 94 For a description of these and other *chimera* mosaics, see Amandry (1956), 155-161; Toynbee (1964), 7-14.
- 95 For example, an ivory plague now in the British Museum which may have been made in Constantinople (BM 56, 6-23.2); a textile in the Louvre Museum (Gu. 1230); a textile in the British Museum (Dalton, 1921, 6-23, 56.
- 96 James (1955), 66-67; 70.
- 97 Kendrick (1922), 64-65, nos 785 (723.1892), 786 (1103.1900). It should be noted that there is also a very similar set of resist dyed examples now in the Louvre Museum which are said to come from Antinoë and which have been given a third-fourth century date; Rutschowskaya (n.d.), 4, fig. 3. See also Birrell (1915), 104-109.
- 98 Isaiah, 1:3; Pseudo-Matthew, XIV; James (1955), 74; Hall (1979), 219.
- 99 Herrmann (1967), 61-68; Nordhagen (1961), 334. In footnote 97 reference is made to the Louvre, and Victoria and Albert resist dyed hangings. In the VA example, the people depicted are named, so its Christian origins are certain, similarly, the figures are named in the Louvre example. The Victoria and Albert Museum example, however,

represents a Christian scene, while the Louvre example has a pagan scene. Nevertheless, the style and method of working are so similar that it would seem likely that they had been produced in the same workshop.

- 100 Herrmann (1967), 64. See also Chehab (1958), 46-50, pl. XXIII.
- 101 See Noll (1967), for some early Roman wall-paintings depicting Christ as the Good Shepherd. In these paintings Christ is depicted wearing a short, Roman-style tunic.
- 102 Matthew 2:2 simply describes the Magi as coming from the East. Luke makes no reference to the presence of Magi at the nativity of Christ. There is one other compound weave textile which includes a figure wearing a Phrygian cap. The textile is now in the Keir collection, no. T.23: Sphuler (1978), 241, no. 147b. The piece is very small and has been badly damaged, so it is now impossible to say with what scene it was originally associated. It should be noted, however, that I am not suggesting that the figure in this compound weave textile also represents a Magus.
- 103 See for example, a relief from Nemrud Dagh showing a personification of Antioch meeting Apollo-Mithras (Ghirshman, 1962, 67, fig. 80). See also Rostovtzeff (1938), pl. XVIII.
- 104 Wilpert (1894), pl. VII; Cabrol and Leclercq (1907-1953), vol. 2.2, col. 2096. For a list of early representations of the Magi found before 1930, see Kehrer (1908-09); Cabrol and Leclercq (1931), 980-1067. See also Testini (1979), 429-457, esp. 449-450, figs. 28, 29.
- 105 As an aside to this discussion concerning the garments of the Magi it is interesting to note that during the Classical revival of the Renaissance period in Europe, the Magi are often depicted as wearing

contemporary costume (for example, Dürer's painting, *The Adoration of the Magi*, Uffizi Gallery, Florence). In other paintings, however, they are shown wearing the 'new' exotic, Eastern mode, namely, Turkish style gowns and turbans (for example, Anon., *Adoration of the Magi*, late 15th century, Padua, Museo Civico, illustrated in Raby, 1982, 22).

- 106 Luke 2:21. This festival is sometimes confused with Candlemas which takes place on February 2nd and which is the purification of a mother following the birth of a child in accordance with Leviticus, 12:1-4.
- 107 These pieces do not include the compound weave textile now in the Royal Ontario Museum which has an inscription painted onto the cloth, see ROM 968.323.1 <14>.
- 108 The compound weave textile with *Allah* on it has the same background weave structure as QI 64T/132 <41>; 80T/103 <56>; 80T/104 <57>.
- 109 See for example, Schimmel (1984), 3; Safadi (1978), 35, fig. 6.