Ancient Assyrian Textiles and the Origins of Carpet Design

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ANCIENT ASSYRIAN TEXTILES AND THE ORIGINS OF CARPET DESIGN[1]

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In the Epic of Gilgamesh, a story 4,000 years old, the wild man Enkidu is tamed by a harlot, and symbolic of his conversion to civilisation is the clothing which he puts on before he is led to the ancient city of Uruk. Later in the story, when Gilgamesh and Enkidu had performed the heroic deed of slaying the monster Humbaba, Gilgamesh "washed his filthy hair, cleaned his gear, shook out his locks over his back, threw away his dirty clothes and put on fresh ones; he clothed himself in robes and tied on a sash: Gilgamesh put his crown on his head". The goddess of love and war, Ishtar, saw him and instantly fell in love with him.

These episodes show that clothing was regarded as a sign of civilisation and beauty, of status and desirability in ancient Mesopotamia. The joy of living was expressed in clothing and implied in the episode when Gilgamesh, after the death of his bosom companion, wandered in open country wearing only skins, and encountered the ale-wife Siduri; her advice to him was, to enjoy life while it lasted, and to wear fresh clothes every day. In the myth The Descent of Ishtar to the Underworld, the goddess is allowed by the gatekeeper to enter through the seven gates, but at each gate she is stripped of an item of clothing or finery until at last she appears naked before the mistress of the Underworld. There are hints in this myth that Ishtar was envisaged as a cult statue such as was worshipped in all the great temples of Assyria and Babylonia: the statues of gods and goddesses were clothed daily, as a part of cultic practice, in the finest possible dress. Their apparel consisted of the most luxurious fabrics and trimmings, and were often the height of fashion, exhibiting many of the same features as the garments of kings and queens.

Palaces and temples, the homes of kings and queens, the residences of gods and goddesses, were likewise furnished with the best that their patrons could provide. Textile furnishings essentially rely upon the same raw materials and techniques as clothing. They are also similar in reflecting the taste, status and identity of their owners, and are no less prone to changes in fashion.

In the eighth and seventh centuries B.C. the Assyrians were the most powerful people in the world. Their empire stretched from Cyprus to Iran, from Turkey to Egypt, but their influence and their purchasing power reached even further afield. They could command the best and the finest of everything that was produced in the ancient world, and many distant monarchs sent off their best produce as gifts which served both as tokens of respect and solicitations of reciprocal gifts. Gift exchange between rulers, just as much as booty in warfare or mercantile trade, was responsible for imports and exports. It is true, of course, that the great Assyrian kings with their annual campaigns and frequent conquests won many of their finest textiles by force of arms: the victor is always represented in sculpture as clad in wonderful robes, the conquered naked, deprived, with their clothes, of pride and of the joys of life. Never in ancient Mesopotamia did the naked human body, associated with shame and humiliation, acquire those connotations of pride and splendour that are found in ancient Greece.

The study of textiles from such ancient sources as those of the neo-Assyrian empire presents particular difficulties. The ninth to seventh centuries B.C. comprises a period when no foreigners' accounts give an outsider's view of society. There is no Herodotus or Xenophon, no Marco Polo who can satisfy the curiosity of modern people about the distant past. Therefore we are dealing with contemporary written records which were never intended to tell us what we want to know; they only record in laconic or abbreviated form the information that was needed for their writers and readers. Since those men were always fully aware of the context, some of the most basic information that we need is entirely lacking. On the one hand we have these enigmatic texts, and on the other we have stone relief sculptures that have lost most of the colours in which they were originally painted and lack the kind of perspective and background detail that can reveal wall hangings and floor coverings. Quite a lot of surface detail in the form of lightly etched patterns is visible, particularly on garments, but there are many pitfalls in trying to deduce textile techniques from patterns alone. In order to avoid some of these pitfalls, it is essential to look at the interplay that can be shown to occur between different kinds of decorative arts: metalwork, marquetry, wall-painting and glazed brick, to investigate whether particular motifs or types of motifs are exclusive to particular media or techniques.

Knowledge of techniques and the progress of technology is fundamental. If we can gain a base of information about the machinery and tools that were

available, some lines of enquiry can automatically be discarded as impossible, whereas others may be unexpectedly fruitful. In this respect a caution of particular severity needs to be sounded: it is not valid to take evidence from a later period of antiquity and to project that evidence backwards in time. For the issue is, to discover at what times and in what areas particular discoveries and innovations came about. It would thus be wrong to take for granted that, for example, cultured silk was known in Assyria in the seventh century B.C. just because it was available in fifth century Athens; or that pile carpets were produced in Syria just because they were produced in Turkmenia at the same date. Since most crafts in ancient times were taught and handed down in families, from father to son, or from mother to daughter, and since, as the texts tell, many craft skills were jealously guarded not just within a single locality but also within a small group of craftsmen within that locality, we may expect to find the kind of regional variation with which one is familiar from the study of Persian, Anatolian and Caucasian rugs, but to an even greater extent. On the other hand it should be stressed that the kings of Assyria carried out a strenuous policy of deportation. To what extent this involved craftsmen rather than other, politically active groups of people, can seldom be discovered from the evidence, but there is certainly a possibility that during the early centuries of the Iron Age, *c.* tenth to seventh centuries B.C., some craft specialisation was broken down and disseminated more widely than previously.

Other problems arise when a particular discovery is made, for example the pile carpets from the frozen tombs of Scythian warriors discovered at Pazyryk. They can be dated roughly to the fifth century B.C. Thus they give a *terminus post quem*; but no indication as to whether or not they belong to a tradition already long-lived, or whether they were produced in the vicinity in which they were found, or whether they had been acquired from afar by trade or booty, or whether they were imitating a speciality which had its home elsewhere. The ancient world at that time was so diverse, so mobile and flexible, that naïve conclusions can easily be drawn from a single piece of evidence.

It has generally been supposed that the Mesopotamians of the second and perhaps even the third millennium B.C. may have had or known of pile carpets, but definite evidence was lacking.[2] Recent Soviet excavations in the Sumbar river valley in Turkmenia, east of the Caspian, have produced a number of women's graves containing a special knife which is still characteristic of pile carpet makers, and is used for trimming the pile. They date from the middle of the second millennium B.C., and have been taken as definite proof that pile carpets go back at least one thousand years earlier than the evidence from Pazyryk.[3] This is a major contribution to our knowledge of technical developments in the Middle East. But since no such tools are known from any excavations anywhere else, we need to consider the possibility that the pile carpet was produced only in that region at that time, and may not have spread elsewhere for many centuries. An Akkadian word *mardatum* may mean a pile carpet according to the arguments of several scholars, but it is also likely that the word had a broader range of meaning, just as the word "rug" can mean any floor- or wall-covering in a variety of techniques—pile, woven, tapestry, embroidered, rag, patchwork and appliqué and so on.[4]

To make a rug of a good width in one piece, one needs a warp-weighted vertical loom. Such looms are attested in the Bronze Age, partly from Egyptian paintings,[5] partly from the ideogram in Linear B, and partly from the characteristic arrangement of loom weights excavated in the pattern in which they fell when the rest of the structure was abandoned or looted, on floors within rooms. How common they were is unknown, and they need not have been used for specifically pile carpets. Horizontal looms, small, varied and easily portable, must have been much more common, along with tablet or card weaving. An important difference between them is, that the width of fabric between the edges is usually more than an arm's length on the vertical loom; the horizontal loom is suitable for narrower widths.

Two possible words for a pile carpet maker have been identified tentatively in Akkadian: *kāmidu* and *kāṣiru* (the latter means literally "knotter"). The *kāmidu* is also associated with felt; and he produces warp and weft threads, as well as cord and rope.[6]

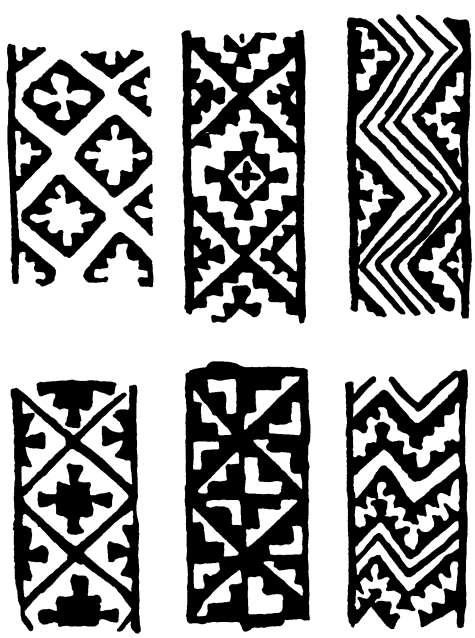

Fig. 1. Patterns painted on Namazga ware pottery from Turkmenia in the Bronze Age.

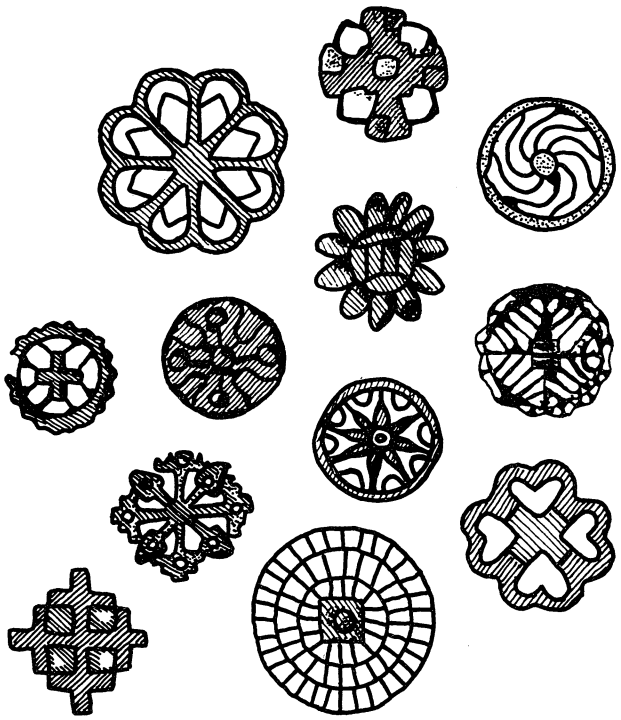

Fig. 2. Metal stamps from Turkmenia in the Bronze Age.

One interesting line of thought to emerge from the Turkmenian grave goods, is that the patterns on the painted pottery of that area in the late third and second millennia, like their counterparts on metal stamp seals, are similar to some motifs found on Caucasian and Central Asian rugs even today (Figs. 1–3). If this is more than just a passing coincidence, it implies that some traditional patterns of many Islamic rugs and carpets go back a long way into pre-Islamic times, and may be three thousand years old at least. The only comparable pattern that I have found in Mesopotamia itself comes from a completely different medium: it is a piece of frit inlay, for which the backing material had since perished; found at Mari on the Middle Euphrates in Syria, dating to the Middle Bronze Age, *c.* 1800 B.C. (Fig. 4). The elements of the pattern are certainly not of a traditional Assyrian or Babylonian type, and correspond quite closely to the bronze and copper stamps of Turkmenia. This assemblage of material helps to illustrate the point that particular patterns are not exclusive to a single medium in decorative arts.

In order to discover what textiles were available to the neo-Assyrians, we should not ignore those that have been found so well-preserved in Egyptian tombs of the late second millennium, bearing in mind that only a restricted range may have been included in burials. Woven tapestry and embroidery were found. Therefore we can assume that these two textile techniques were available to the Assyrians several centuries later, either as imports by trade or as indigenous products.

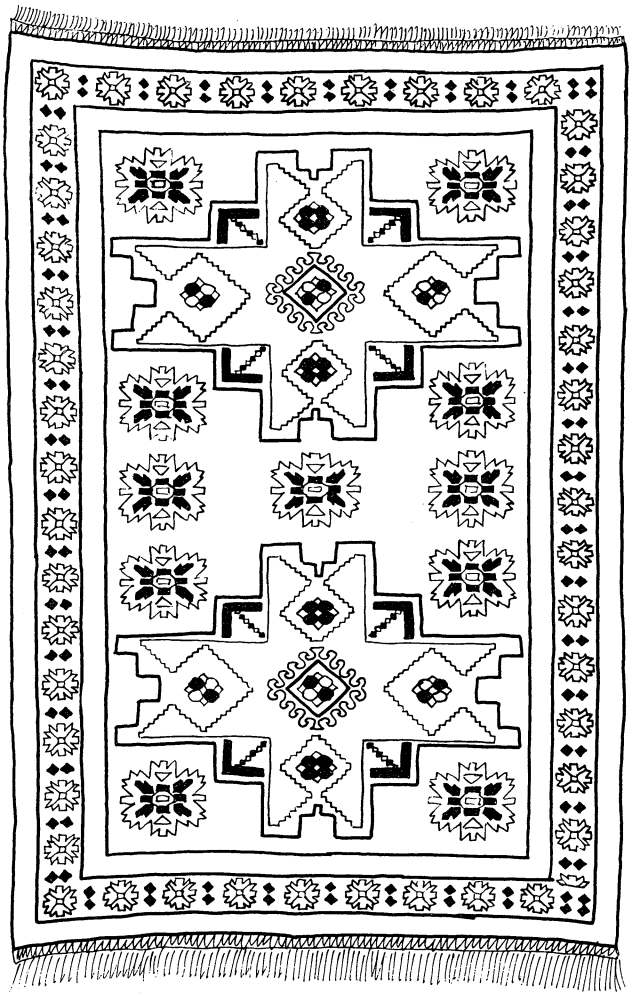

Fig. 3. Caucasian rug with motifs reminiscent of Bronze Age patterns.

The discovery of embroidery in Late Bronze Age Egypt can be used to illustrate an important point about statements by Classical authors concerning the origins of particular techniques. According to Pliny[7] the Phrygians invented the art of embroidery with the needle. It seems to have been the tradition in ancient times to ascribe an invention or discovery to one's own national group, if that group was particularly good at it and had developed local techniques to a fine art. The Egyptians were embroidering before the Phrygian nation came into existence. A parallel case can be cited from Greece: the Athenians considered that their own ancestors had invented the potter's wheel, and this can be seen alongside the conflicting tradition in which Anacharsis the Scythian is said to have invented the true potter's wheel.

The background is important because it shows how easily one might fall into the trap of assuming that the

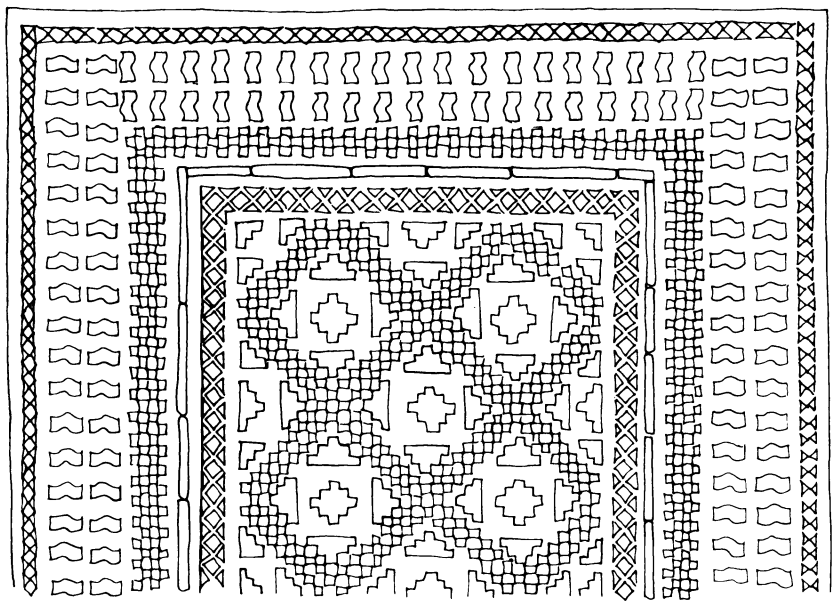

Fig. 4. Frit inlay pattern from the Middle Bronze Age, found at Mari on the Euphrates.

Assyrians had very few techniques at their disposal. This was indeed the assumption made by A. L. Oppenheim, who interpreted a very large number of motifs sketched on to the garments of gods and kings on sculptured reliefs as gold and silver plaques which were sewn on to a plain backing fabric.[8] Such plaques are mentioned in Assyrian texts, and have indeed been found on excavations, most notably in the tombs of late Assyrian queens recently discovered at Nimrud,[9] and are well known from the Scythian burials at Pazyryk.[10] Not only did Oppenheim think that rosettes on narrow bands or ribbons should be interpreted in this way, he also thought that where such motifs were found repeated over the whole of the person's main garment, they were likewise appliqué gold plaques. Coloured wall paintings from the Assyrian palace at Til Barsip near Carchemish show some of the supposed gold appliqué as red and blue,[11] and the glazed brick figures of the Achaemenid period from Susa show such panels as blue and yellow. As Mme Barrelet has pointed out, the majority of such designs was certainly made in multicoloured textiles, and these were often detachable bands, Akkadian *sūnu*;[12] a garment already decorated with appliqué bands was *lubulti birmi*.

Not only the Til Barsip wall paintings but also Assyrian relief sculptures present a limited view of ancient costume, for they depict only men, with very rare exceptions. Therefore it is impossible to compare or contrast male and female apparel, and the discussion presented here inevitably suffers from that constraint.

What fibres were available to the Assyrians? First and foremost is wool. The ancient Mesopotamians were great pastoralists who tended a wide variety of sheep and goats for wool and for meat, for fat and tallow, hides and glue. In general the texts indicate that sheep were plucked for their wool whereas goats were shorn until the mid first millennium B.C., when the shearing of sheep seems to have become more common than plucking. A large, specialised vocabulary for different qualities of wool shows that the textile industry in wools was highly developed.[13]

Linen was less commonly used. Flax was grown on a wide scale in Mesopotamia, as seed analysis has shown,[14] but perhaps more for producing oil than for fibre. Growing conditions for producing fibres of linen from the same plant are not so suitable in Mesopotamia as they are in Egypt and certain parts of Syria. Linen does not take dyes well, and so was ideal as a plain, bleached fabric, capable of various qualities in fineness or coarseness, and ideal as a backing fabric for embroidery or other kinds of trim.

Cotton had been grown for woven textiles in the Indus valley since the Early Bronze Age, produced from the tree *Gossypium arboreum L.* which grows to a height of six or seven metres, and therefore rather different from the low-growing cotton bushes that are commonly cultivated today; but it had never made its way to cultivation in Mesopotamia, again perhaps because its requirements for growing conditions are very specific. Another reason may be that it takes dyes less well than wool does.[15] In the late eighth and early seventh century B.C. the Assyrian king Sennacherib built a beautiful palace in Nineveh within a park. He had campaigned in the marshlands of southern Mesopotamia and had fallen in love with the aquatic environment, so he tried to recreate it around his palace. There he planted and plucked "wool from bushes/trees,[16] they wove them as garments",

presumed to be cotton. He does not state where he obtained the plant, nor whether its cultivation was successful over several seasons; moreover, he does not give a specific word for cotton, which almost certainly implies that the fibre did not become common there.[17]

The question of silk has still not been resolved for this period. In other parts of the ancient world silk has been found—at Sapalli Tepe in Central Asia in Bronze Age levels, in the Early Iron Age Hallstatt culture of western Europe, in the Kerameikos cemetery at Athens, and among the fifth-fourth century frozen tombs of Pazyryk.[18] If it was available in the eighth–seventh centuries, we can be certain that the Assyrians, as the richest people in the world, would have acquired it; but no word has yet been identified. We might expect to find a word that is cognate with Syriac *šīrā*, Greek *sēr*, but it is not there; so we are left with the distinct possibility that silk did not come into use in Mesopotamia and further west until the Achaemenid period.

Rarest, finest and very valuable was byssos, a word which has come down to us through Greek, and is basically the same in Hebrew *būṣ*, Phoenician *bṣ* and Akkadian *būṣu*. In the latter language it never bears the determinative *gada* for linen or *túg* for woollen garments, nor a plant determinative such as flax and cotton might have in the context of the basic vegetable fibre. Although dictionaries of Greek and of Hebrew give the meaning as "byssos, a fine linen", the latter seems to be contradicted for Akkadian usage, because its availability is so very limited, and because it lacks the determinative for linen. Knowledge of true byssos appears to have fallen out of the focus of modern scholars of history; most recent works on ancient textiles only mention it in passing as a fine linen, although conchologists are still aware of its existence.[19] Technically speaking, according to the Draper's Dictionary, quoted in the Oxford Dictionary of English, it is an ultra-fine fabric woven from "the tuft of fine silky filaments by which molluscs of the genus *Pinna* and various mussels attach themselves to the surface of rocks; it is secreted by the byssus-gland in the foot.... Their colour is brilliant, and ranges from a beautiful golden yellow to a rich brown; they also are very durable." This characteristic colour of true byssos is presumably referred to in the Old Testament, particularly in 2 Chron. 2:13 and 3:14, also Esther 1:6 and 8:15, where scarlet, purple, hyacinth and byssos are distinguished within a single category of colour.[20] The word may also have acquired a more general meaning, just as when we say gauze or voile we may refer to a very fine fabric made of cotton, linen or wool. It may also have been used to make decorative bands and as an embroidery thread.

The evidence has been obscured to some extent by the descriptions of Classical authors, Pollux, Strabo and Philostratus, who said that byssos was a fibre extracted from a kind of nut grown in Egypt. From this was drawn the deduction that the word in Roman times could be applied to very fine cotton.[21] This cannot be true in an Assyrian context, for cotton was not cultivated in the Near East at that time, as shown above. It is quite certain, however, that true mollusc-byssos was known in Roman times, for some was found and identified in a Roman grave near Budapest.[22] It was not identified among the wealth of textiles excavated at Palmyra, a lack of evidence that led to some scepticism about its existence.[23]

Sicily, Calabria, Tarento and Malta were the main areas of production up to the eighteenth century.[24] Production of true byssos was described in some detail by P. L. Simmonds in a book published in 1879, at a time when byssos textiles were still being produced in southern Italy and Sicily; samples were exhibited at the London Exhibition of 1862 and the Paris International Exhibition of 1867.[25] Fishermen collected the brilliant, lustrous fibre in large quantities by twisting and breaking it off from the mollusc with a long-handled fork or trident; the mollusc was not harmed in the process, and simply grew more byssos to re-attach itself to rocks. Therefore there are no shell middens for archaeologists to identify. Twenty or more species of *Pinna* yield the fibre. Several famous gifts of byssos are known from historical sources, including cloaks of byssos given by a Roman emperor to five satraps of Armenia around 500 A.D. according to Procopius, and a pair of stockings presented to Pope Benedict XV in 1754, packed into a little container the size of a snuff box, so fine is the fabric.[26]

Byssos rivalled the finest silk: it was so greatly esteemed by the Umayyad rulers of Spain that they forbade its export;[27] in the sixth century A.D. byssos was imported into China as a miraculous cloth made of hair, popularly attributed to a thread-producing animal living in the sea,[28] but later the word seems to have been downgraded, and was used for fine cotton cloth and for linen.[29] It may be the "marine wool" of Diocletian's Edict. Among the early Arabs it was known as marine wool, *ṣūf al-baḥr*, and there are several references to it in Arabic sources.[30]

At the time when Simmonds was writing, there was still a sizeable factory for byssos production at Palermo in Sicily, where articles made of byssos were important for commerce; but he says the best work came from the Orphan Hospital of Saint Philomel in Lucca near Pisa in northern Italy. Production in Tarento in southern Italy was also important, and byssos was called sometimes tarentine, and sometimes pinna wool. Articles of wear included: shawls, waistcoats, caps, stockings, gloves and purses. For larger items it might be spun with another fibre; Goitein mentions an order for two covers of "sea wool" 24 cubits long and woven together with green and red silk.

From Late Bronze Age and Early Iron Age sources it

may be possible to show, both from representations and from texts that indicate the direction of trade, that Akkadian *būṣu* is indeed the fabric made of mollusc filaments. In particular, on Egyptian and Assyrian monuments it may tentatively be recognised because in contrast to the pleated and draped appearance of most undecorated fabrics, and the straight-fibre appearance of linen, byssos gives a rippled effect and is almost transparent, so that the outline of body and musculature can be seen beneath.

A very fine, rippled garment is shown worn by men in some New Kingdom tombs from Thebes, notably that of Menkheper (tomb 79), which date from the mid-second millennium B.C. (Pl. XVIIIa, b).[31] Since this type of robe and fabric is so rare and so short-lived in Egypt, Mackay suggested that it was brought back as tribute or imported from Syria following the campaigns of Tuthmoses I in the Levant. If it were simply a new linen or wool product, it would surely have been manufactured in Egypt from then onwards, and would have been in continuous use; there would have been no reason to discontinue it. The garment consists of a shawl or cloak worn over one shoulder, draped from a band or braid. It is so fine that some of the artists who drew the tomb paintings failed to notice that the fabric continued below the outstretched arm, and they drew the garment as if it had a tailored sleeve.

Byssos is mentioned quite rarely in Assyrian royal inscriptions, specifically in accounts of tribute. On one occasion it comes from Suhu on the Middle Euphrates in the ninth century; and on another it comes almost certainly from Ashdod in the late eighth century.[32] At this time a rippled garment, reminiscent both in surface treatment and in shape of the earlier Egyptian one, is worn by the palace herald Bel-Harran-belu-uṣur (Fig. 5), a man so powerful that he virtually usurped the place of the king; and by courtiers of the Assyrian king Sargon II (Fig. 6). Ashdod is, of course, on the coast of southern Palestine; and Suhu acted as an entrepot for Levantine and Mediterranean goods travelling eastwards. In the Old Testament, I Chronicles 4:21, a workhouse for the production of byssos is mentioned at Beth-Ashbea, belonging to families descended from Shelah son of Judah. The place is unknown elsewhere, but reckoned from the context to be in the Shephelah region, and therefore quite close to Ashdod.[33] If we are correct in supposing that this is byssos, made from the giant pen shell of the East Mediterranean, we should envisage the colour of those garments as a shining, warm golden yellow. A Phoenician source concerning byssos is the inscription of Kilamuwa from Zincirli, ancient Sam'al, which lies by the Amanus mountains to the East of Cilicia.[34] King Kilamuwa, boasting how prosperity increased under his rule, says that those who formerly could not even afford linen (*ktn*) are now dressed in byssos (*bṣ*). A garment of the same shape and surface appearance as

Fig. 5. Assyrian Bel-Harran-bel-uṣur, showing fine, rippled shawl, and skirt with squares pattern; mid eighth century B.C.

the Theban and Assyrian one is worn by two priests of the moon god at Neirab, south-east of Aleppo in Syria, as shown on two stela of the sixth century B.C. (Fig. 7)[35]

Possible other illustrations of byssos in antiquity may be suggested from the ripple effect and the semi-transparent fineness: a statue of a young man, dredged out of Motya harbour in 1979,[36] although the garment is so long that a combination of fibres is perhaps more likely, as with the covers of Islamic times mentioned above; and a worshipper or priest of Apollo on a colossal statue from Cyprus, dated to *c.* 490–480 B.C.[37]

Among scholars of Italian textiles of the Middle Ages and the Renaissance, byssos seems to be unknown.

Fig. 6. Officer of Sargon II king of Assyria on a stone relief from Khorsabad, Assyria, showing fine, rippled shawl, late eighth century B.C.

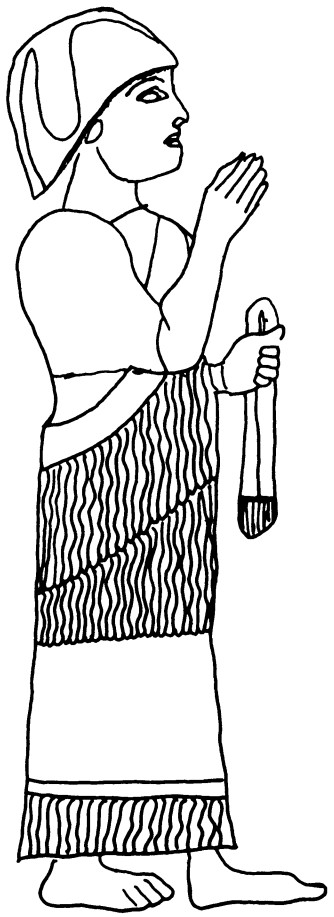

Fig. 7. Priest from Neirab in Syria, sixth century B.C.

How to explain this is uncertain, but the imbalance between absence in Italian sources on the one hand and presence in Muslim and Chinese sources on the other suggests that the production of byssos, originally a Phoenician innovation, remained in the hands of Phoenicians and Jews and was marketed mainly to Islamic centres.

At the opposite end of the spectrum is the humble felt, made from wool and goat hair. It has been found in the neolithic strata at Çatal Hüyük in Anatolia,[38] and identified in Sumerian and Akkadian texts.[39] As already mentioned, there are reasons for linking the felt-maker with the likely Akkadian word for a rug or carpet. Fine examples of work in felt have been recovered from Pazyryk,[40] often using techniques that are specific to the material, a cut-out technique with transposed insertions rolled into place, like a mosaic;[41] the join between two different colours is often highlighted and reinforced by white cord which is sewn on to the outline.

Recent research in Sumerian and Akkadian has given a much clearer picture of the dyes available to the Assyrian.[42] It is evident from wall paintings and glazed brick, both of which preserve colour to some extent, that blue, red, white and black were the colours mainly used by the Assyrians, to which green and yellow were sometimes added.[43] Not only do the wall-paintings of Nimrud and Til Barsip show this, but also we know that lapis lazuli and carnelian were the two gemstones most favoured for jewellery and imitated in paste and frit.[44] Although the Assyrians used kermes (*tabarru*) for some of their red, and probably woad for some blue dyes, the tribute lists show how much they prized Phoenician red, purple and blue wool which used the product of the murex shell. This is the origin of the Tyrian purple so greatly prized by the Romans: the tradition of that imperial colour began in the

Middle East, apparently in the Late Bronze Age (for it is attested in the texts from Ugarit but not, apparently, in Middle Bronze Age texts from Mari), and was very important for the Late Assyrians. In Neo-Assyrian texts the red-purple shade was called *argamannu*, and the blue *takiltu*. Until recently it was thought that dye from any batch of the shells could be made in any shade from blue to red according to the degree of oxidation. Recently, however, it has been shown that the blue dye *takiltu* was produced separately from the specific shell *Purpura trunculus*, of which heaps from antiquity have been found at Sidon, apart from the heaps consisting those other shells from which the red was derived.[45] So we now know that there is not a single dye from which all shades from red to blue were produced; but rather two distinct dyes separately produced from different shells, and these correspond to the two words in Akkadian of the early first millennium.[46] One of the main centres of production in neo-Assyrian times was Arvad, which was obliged to pay the Assyrians an annual tribute in the form of dyed wool, and we can trace from cuneiform sources its progress through Hamath on the Orontes river and up to Laqe and Hindanu on the Middle Euphrates, all these places paying tribute at various times in the form of red and blue wool.[47]

Another source of red dye has only recently been identified correctly. The Akkadian word *hurātu* was identified in 1920 as gall-apple, and then as sumac,[48] but since 1983 it has been recognised on firmer grounds as madder, very often closely associated with alum as a mordant in the large quantities which are indispensable for dyeing with madder.[49]

A shade of green for textiles may be represented in Akkadian texts by the word *hašmānu*, known in other contexts as a gemstone. In Hittite texts a definite word for green, *haṣartu* (with clear Semitic cognates) is linked with *hašmānu* in being described as "of the sea".[50] In texts from Ugarit *hašmānu* is translated from Akkadian into Ugaritic as *ṗḥm* "charcoal", and this led to a reinterpretation of the meaning as a red colour,[51] on the grounds that *ṗḥm* might stand for "fiery coals" and would therefore describe a red colour.[52] It was recognised that the later word for red wool, *argamannu*, meant "tribute" at that early period, and only in the Iron Age changed its meaning to "red wool"; *hašmānu*/*ṗḥm* thus seemed to fill the gap for "red wool".

There may be a preferable explanation for *ṗḥm*. A Greek papyrus which describes the preparation of woad dye shows that woad was also known as "charcoal"; the Greek word *anthrax* means both "charcoal" and "woad".[53] Therefore *ṗḥm* may show that *hašmānu* refers to the blue or green colour produced by woad dyeing. Such a solution has the advantage of keeping Ugaritic lists of textiles mainly in descending order of value: *síg.za.gìn*/*'qn'* as murex-purple, *síg.za.gìn takiltu* as murex-blue, and *síg.za.gìn hašmānu* as woad-blue/green.[54] This has two implications: that dyeing with vegetable woad was practised at Ugarit alongside murex-dyeing; and that red textiles dyed with madder and with kermes either were less valuable or were not produced there.[55]

A green pigment was produced in antiquity from verdigris, made by soaking copper in grape residue or in vinegar; the process is described by Theophrastus.[56] The dubious claim has been made that it was also a dye for early Islamic textiles.[57] Recently this possibility has been raised for ancient Mesopotamian dyes.[58] Whereas there is no doubt that verdigris produced in this way was used as a paint or pigment, no method of making it soluble for dyeing is known. Some misunderstanding may lie in the difference between a pigment that may remain insoluble and a dye which must be soluble, or in selecting too narrowly from the semantic range of a word that may mean both dye and pigment.[59]

Textile production was extremely important in the Early and Middle Bronze Age, as texts from ancient Mesopotamian cities and from Ebla in Syria have shown; and the use of madder, kermes and other dyes implies that sheep were already bred to produce white wool. However, there seems to be no evidence that the sea was yet exploited on behalf of textile production: murex shell dyes are apparently attested first in the Late Bronze Age, and byssos not until the early Iron Age. If these tentative observations are valid, they imply that dyeing specialities gathered momentum during the second millennium, culminating in the period of the neo-Assyrian empire. By then almost all the dyes known to later antiquity and the early Middle Ages except indigo were in use; of the fabrics, probably silk and cotton remained to be introduced.

One of the most obvious and striking characteristics of Assyrian garments as they are known from sculptures is the ubiquitous use of border strips and of fringes, sewn on to the basic garment (Fig. 8). Sometimes the strips appear as if sewn together to form, for example, a wide belt or girdle, or the ceremonial accoutrements of horses (although one cannot tell from relief sculpture whether the latter are made of textile or of decorated leather). Such strips and fringes would have to be removed when the main garment was cleaned so that the dyes would not run and the delicate work of embroidering or tasselling would not be handled roughly. Many inventory texts list fine or ceremonial garments, with or without their decorative border strips *sūnu*, and robes which have been divested of their trim are described as "stripped/peeled", *qalpu*.[60]

This treatment of rich textiles is well known from later times. In Late Antiquity textiles from Egypt show that tapestry decorations were often made separately and sewn on to the finished garment of linen, especially roundels, borders, and cuffs.[61] During the Tang

Fig. 8. Assurnasirpal II king of Assyria, showing use of ornamental bands and fringe, and rosette motif.

dynasty in China in the eighth century A.D., narrow bands of one inch or less in width were made in tapestry-woven silks and have been found sewn on to plain backing fabrics, found in Central Asia by Sir Aurel Stein. On ecclesiastical vestments of Mediaeval England the orphrey was originally a decorated strip sewn on to hide a central seam; and the alb was decorated with embroidered panels on the cuffs and at the hem; indeed, the word "apparel" originally meant a decorative, embroidered panel.[62] The Assyrian evidence thus stands at the head of a long line of tradition.

The border strips, braids and fringes played a significant role in Assyrian society, for they were personalised in their design. The king's own border strips very frequently display rosettes, as does the band on the royal crown, and some of his closest companions, perhaps members of his family, likewise wear rosette decoration, for Ishtar was the patron deity of the king's person and of his royal entourage whether at the court or in the field of battle. So the use of rosettes to decorate those border strips seems to be equivalent to heraldic themes in military uniform, and the same is true of the trappings of royal horses: emblems of Ishtar, whether the rosettes or the "naked lady", the goddess who puts the king under her own special protection, are found on certain horse trappings: blinkers and frontlets, for instance. Such use of motifs may eventually be used for recognising "regiments" on Assyrian reliefs, and for distinguishing members of the royal family.

The hem or fringe of a garment was used to seal legal records in cases where a man's cylinder seal was not available, or if he did not possess a seal. The other means of sealing a document was the finger-nail. In other words, the hem or fringe was a very personal item and could represent the man who wore it. We even have a cuneiform text in which the hem is said to have the owner's name marked on it.[63] How this was done we cannot say, but it is reminiscent of the mediaeval *ṭirāz* technique on garments produced in Iraq, on which an inscription was embroidered, painted or printed, generally on a band on the upper arms, but also on turbans and sashes.[64] Such bands

normally bore the caliph's name with a *basmala* and a pious wish, and were distributed from imperial factories as robes of honour. Attested from the end of the Umayyad dynasty, they may be derived from an earlier tradition: ancient Mesopotamian statues were often inscribed on the back or down one shoulder-blade with the name of the person whom the statue represented and the deity to whom it was dedicated (Fig. 9),[65] and it is possible that such inscriptions in stone sometimes imitated or stood for inscriptions sewn by embroidery or by appliqué on to the garment itself.

Lists of tribute especially from Syria and Phoenicia often include "garments with multi-coloured trim", *lubulti birmi*. Unfortunately we cannot tell by the patterns shown on reliefs and paintings whether they were braided or tapestry, or beadwork or embroidered; however, their very narrow width makes them ideal for weaving on the horizontal loom, band loom or tablet (card) that can be accommodated easily in any surroundings and in any way of life: rural, humble and domestic; urban, palatial and royal; or tent-dwelling, nomadic and pastoral. Moreover, by sewing together several such strips, perhaps on a backing of felt or linen, one can obtain a much wider textile than can be produced on a horizontal loom. Some wide belts and horse trappings shown on Assyrian reliefs appear to be made in this way.

A striking fashion comes into Assyria from the ninth century: the main robe is decorated with squares that run parallel to the edge and cover the whole fabric, distinct from the ubiquitous plain, draped garment with decorated borders and fringes, and from the diamond pattern which is found elsewhere at much earlier periods. First attested, perhaps, on a relief sculpture of Assurnasirpal II (883–859 B.C.)[66] and shown on the stela of Bel-Herran-bel-uṣur (Fig. 5) of the mid eighth century, it becomes very popular in the reign of Tiglath-Pileser III (744–727 B.C.) when it was worn by a goddess (Fig. 10) and by the Anatolian king Warwapalawas of Tyana, his vassal (Fig. 11). His garment is clearly held together by a fibula of a distinctively Phrygian type, and this led R. Boehmer to postulate that the garment shows Phrygian embroidery work, although others have supposed that the squares are metal plaques. Boehmer himself drew attention to the similarity of design on a wooden screen from the "tomb of Midas" at Gordion.[67] It is possible that this style arose from a patchwork of repeated squares, which would be particularly suitable for rich embroidery, as Boehmer has suggested, and might

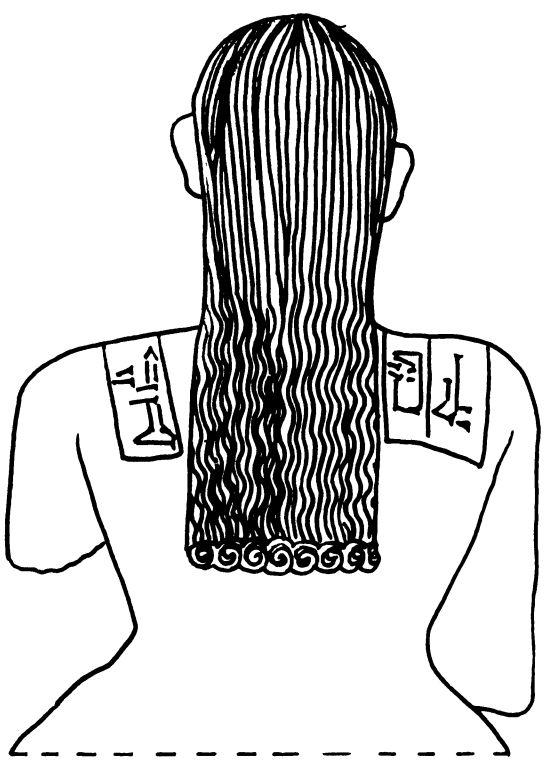

Fig. 9. Bronze Age statue from Mari on the Euphrates, showing inscription arranged on shoulders of garment.

Fig. 10. Assyrian goddess, carved on a relief of Tiglath-Pileser III, showing squares pattern on main robe, and banded belt.

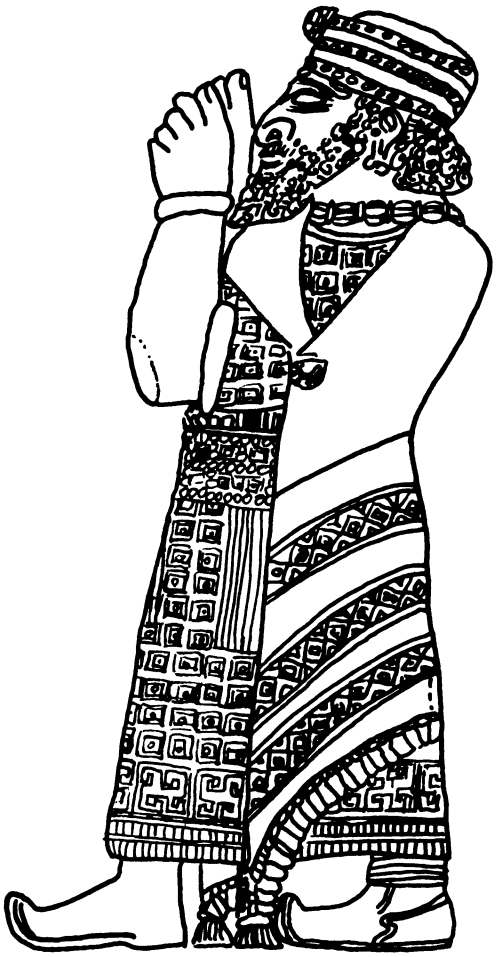

Fig. 11. King Warwapalawas of Tyana, showing squares pattern on main robe.

have given rise to legends about the invention of embroidery by Phrygians, but the style is also suited to other techniques.

One of the most intriguing pieces of Assyrian decorative art which has been adduced as evidence for pile carpets is found on the sculptured stone door sills or thresholds excavated from neo-Assyrian palaces, at Khorsabad and Nineveh, capital cities of the late eighth and early seventh centuries respectively (Pl. XVIIIc). Albenda thinks that they must be pile carpets, and that they came from the Levant to Assyria.[68] There are several problems in such a firm identification.

First, the example from Khorsabad unambiguously has its fringe-type pattern on three sides, whereas it is self-evident that rugs made on any kind of loom have fringes on one or two sides, but never three, unless the fringes were attached as separate decoration; if so, they are not evidence for heavy warp threads. Secondly, two texts of that period say specifically that fine thresholds were made of silver.[69] Less closely related textual evidence can also be quoted: the threshold of Alkinoos in *Odyssey* VII is of bronze; and Nebuchadnezzar II put a gold-plated threshold in Esagila, Marduk's temple in Babylon, when he rebuilt it.[70] From Borsippa in Babylonia a bronze doorsill decorated in repoussé rosettes dating from the late seventh or early sixth centuries can be seen in the British Museum. Metals would indeed be better suited to the position than rugs, since ablutions were performed there and shoes removed at the doorway. The so-called fringes on the Assyrian stone thresholds do not in fact look like textile fringes; it may be instructive to look at a felt saddle cloth from Pazyryk on which strips of woven material were mounted. Woollen tassels at one end resembling warp threads have been plaited together at intervals and attached to a silver bud-shaped ornament.[71] One of the principles to emphasise from this evidence, is that themes and motifs may be common to various materials in decorative arts, and so they do not tell one intrinsically what the medium was.

Assyrian evidence has shown that many different textiles and metal ornaments might be used together to produce a complete garment. Some three centuries later, the tombs from Pazyryk contained pieces that show the same principles carried to an extreme, in which silk, dyed fur, felt and various metal adornments were included. Another saddle blanket consisted of a piece of embroidered silk mounted upon felt, with borders added on all four sides, so that the overall design is very like that of Qum carpet.[72] The free, naturalistic design can be contrasted with a gold plaque that has repeated squares each containing a stag running parallel to the edges,[73] as if individual gold plaques had been joined up, and the famous pile carpet from Pazyryk has deer repeated in the same kind of arrangement. Another saddle blanket is of embroidered silk, felt, leather appliqúes, and lead and gold foil, showing how many different materials might be combined in the decoration of a single "textile" item.[74] The Scythian material shows how widespread was the use of a great range of materials in a single item, pointing to a basic, long-lived tradition in design in which patterns were built up as separate layers or zones of appliqué upon a plain backing.

These observations lead one to look at the design of traditional oriental rugs with a view to seeing in them a range of originally detachable items which were sewn on to a backing of felt, and to try to find, in shapes that have sometimes acquired an Islamic *raison d'être*, a variety of items that could have been used in this way. The felt backing begins with the obvious advantage that it has no restrictions on width; if one compares wide, pile carpets made on a vertical loom with woven kilims that are often made in two pieces, the design being "broken" down the middle and sewn together when the work is complete, the advantage of felt before

the invention of the vertical loom, or in its absence, is obvious. An observation that may support this suggested origin can be made from the plain colour commonly found as a background in carpets, upon which the central motifs are placed, and which "disappears" beneath the various borders only to re-emerge at the edges, beyond the borders (Fig. 12). The borders themselves are often set into the rug as strips that do not "turn the corner" and do not particularly harmonise with adjacent strips, neither in pattern nor in colouring, as if they were separate entities that are together by accident.[75] Sometimes such strips are used for the design of the whole rug, whether diagonally, vertically or horizontally (Fig. 13). Sometimes the central field in a plain colour has a repeated design of stars or leaves in yellow, as if derived from one in which gold or silver ornaments were sewn on to a plain backing material (Fig. 14).

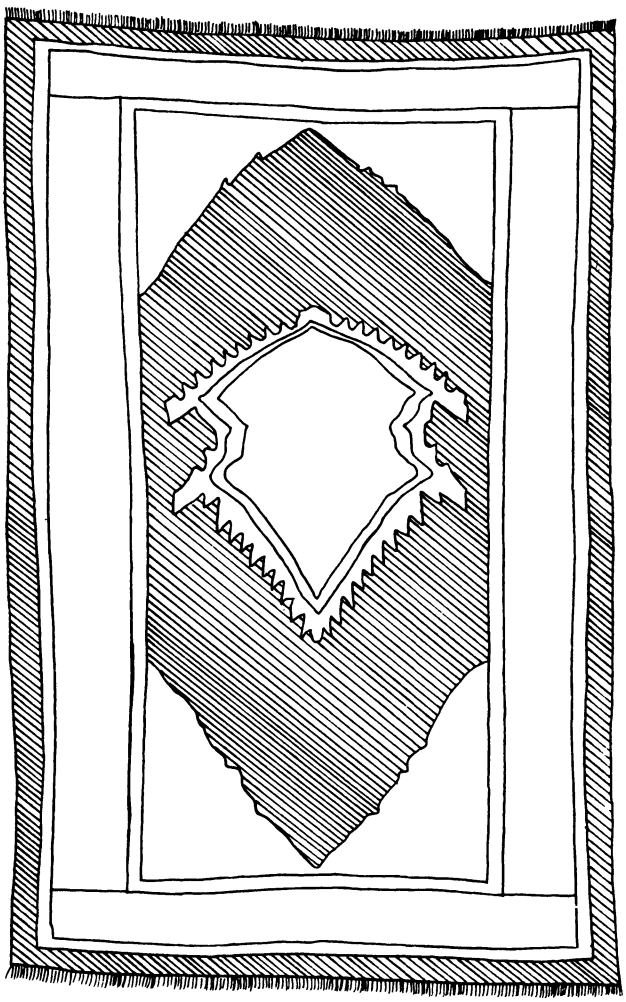

Fig. 12. Persian rug showing disjunction of borders and shaggy, pelt-shaped central motif. Plain blue field in centre and beyond the borders resembles backing fabric.

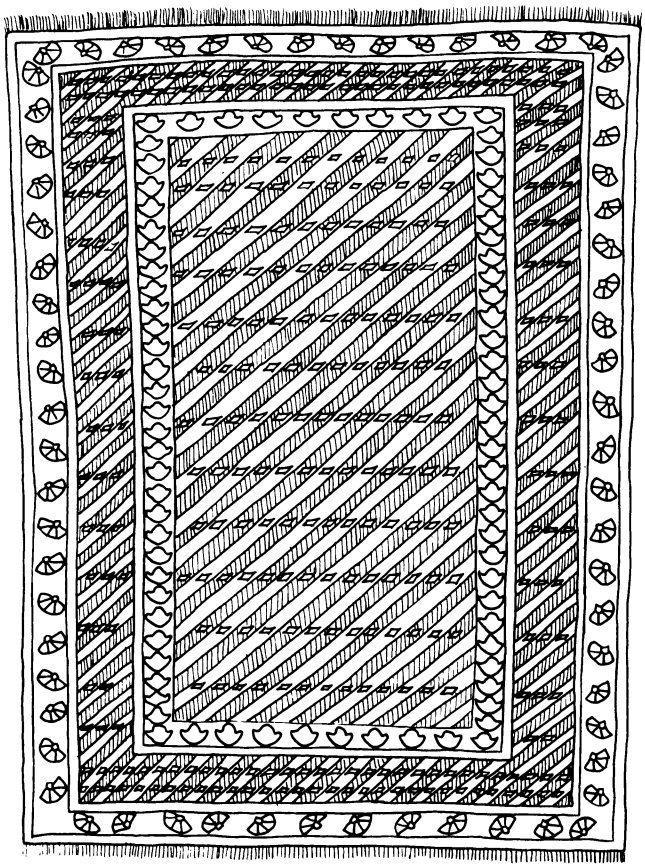

Fig. 13. Caucasian rug with central design and wide border composed of narrow strips.

Central motifs sometimes reveal their individual origins. The salt bag shape is occasionally plain to see, (Figs. 15A, 16) but has often been elaborated into a *miḥrāb* for a prayer rug. Saddle bags can often be discerned particularly in Belouchis, with their characteristic pair of bags separated by the essential middle band to hold them together (Figs. 15B, 17). As mentioned above, felt designs are often highlighted with white cord to strengthen the join,[76] for purely practical reasons, but on Belouchis and Bokharas the white outline has become part of the intrinsic design, helping us to distinguish the individual items.[77] Garden rugs, in which squares containing several repeated motifs run parallel to the selvedges, have borders between each square in addition to the main edging borders, (Fig. 18) and they reveal their patchwork origins. They may be compared to the eighth century B.C. garments discussed above. Other less sophisticated rugs display the patchwork construction of their ancient ancestors,[78] with patterns that can be compared closely with modern quilts and cushions. Tent bands used for framing the entrance (Fig. 19),[79] long bedding bags (Fig. 15C)[80] and camel trappings can also be recognised as elements incorporated into carpet

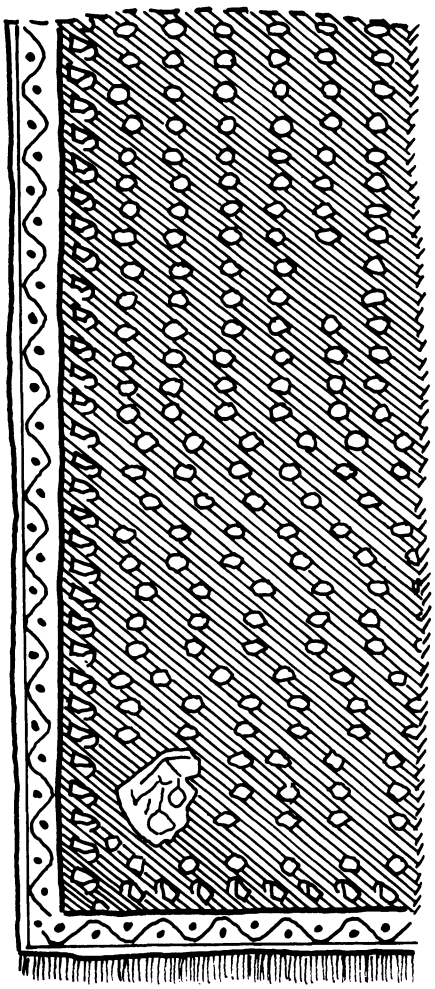

Fig. 14. Caucasian rugs showing yellow medallions on a plain background resembling gold and silver ornaments.

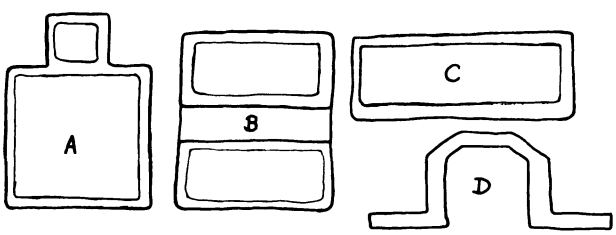

Fig. 15. Outlines of elements often found on rugs: A—salt bag; B—saddle bags; C—storage bag as hung on tent walls; D—decorative band used to frame tent doorway.

designs.[81] Woven bands are very commonly used to decorate Turkmenian tents, both to surround the opening (Fig. 15D) and to reinforce the tent where guy-ropes are attached, and they may have been used on carpets particularly when damage to their extremities made them too short for their original function. As for central medallions, occasionally one may be able to

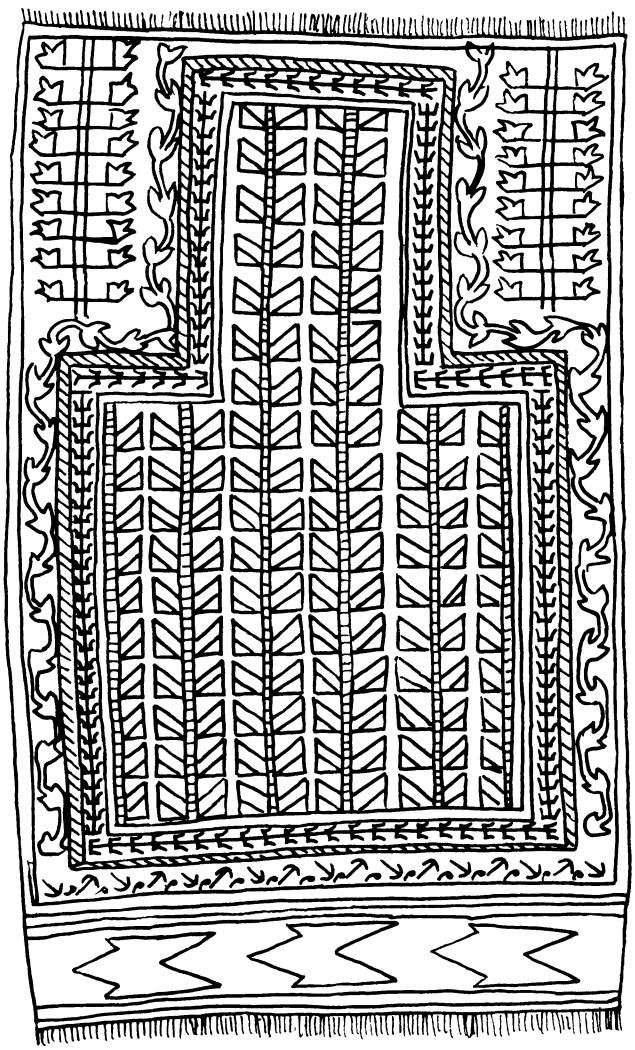

Fig. 16. Belouchi prayer rug with salt bag motif outlined in white.

discern a saddle cloth with fringes, or even the pelt of an animal (Figs. 12, 22).[82] Some rugs show one item superimposed upon other items, giving designs that disrupt harmony and do not simply fail to achieve it (Fig. 20).

Once the principle is grasped, of design elements in one material (metallic, textile or leather) imposed upon the backing of a plain fabric, some of the central motifs are recognisable in terms of animal skins. Several highly decorative items from Pazyryk proved to be made using dyed furs, coloured leather roundels and cut-outs, set on a backing.[83] On many oriental rugs, central medallions closely resemble the outline of pelts from various animals (Figs. 12, 21, 22A, B).[84]

An instructive comparison can be made between rugs with a pelt as the central motif and the tiger rugs of Tibet. Some of the latter are mainly composed of a design imitating the pelt of a tiger, more or less stylised (Fig. 23). There is clear evidence from Buddhist

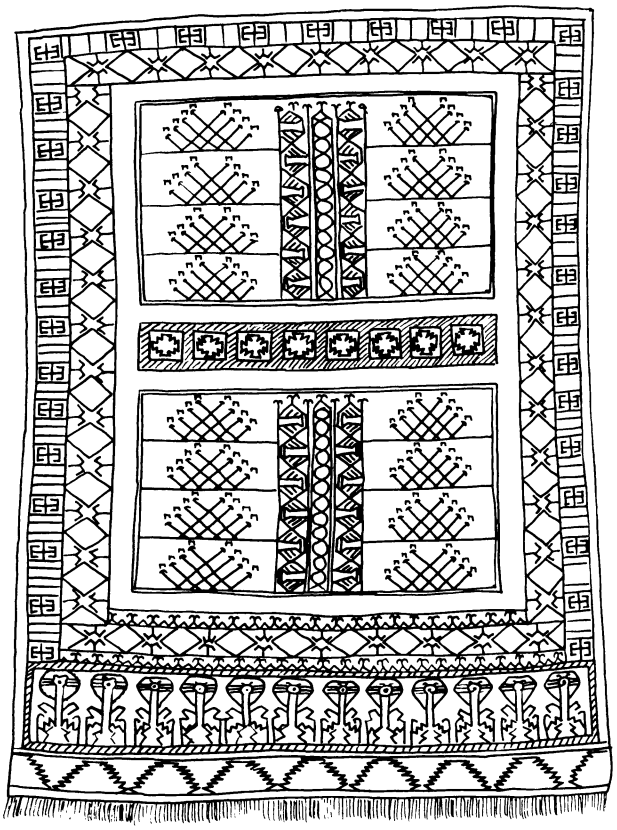

Fig. 17. Turkmenian rug with central saddle-bags motif.

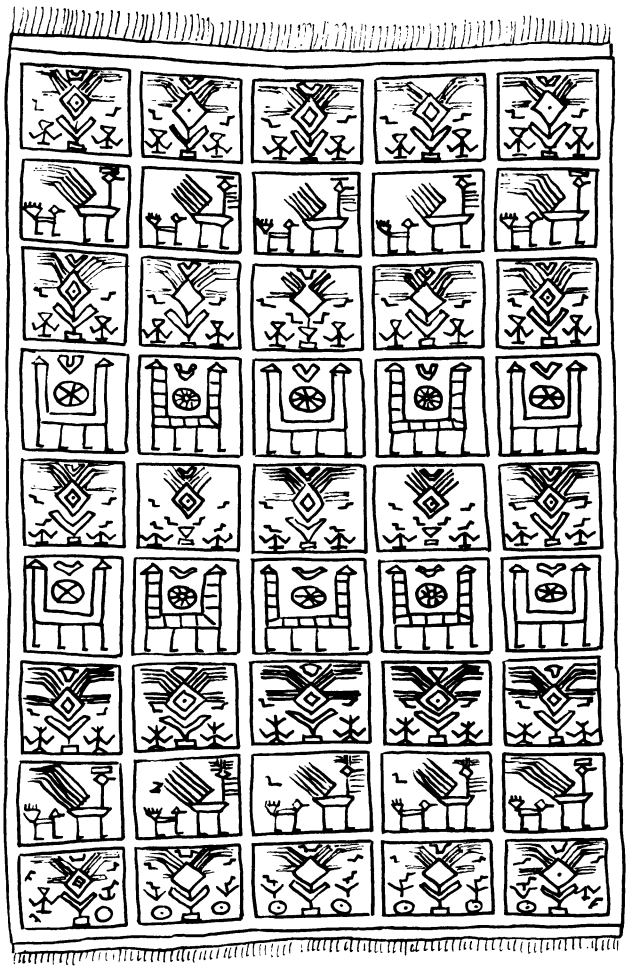

Fig. 18. Caucasian rug with patchwork design of squares joined with white-based border.

illustrations that tantric Buddhists thought meditation was more efficacious if made upon a lion skin,[85] and a Sufi is depicted upon a lion skin on a fifteenth century Persian miniature.[86] This suggests that the Islamic practice, of praying when possible from a prayer rug, may have had its antecedents in earlier religious practice, when men may have prayed either from a pelt or from a rug on which a pelt was sewn or represented. Since pagan associations would discourage Muslims from praying on a rug that had an overt pelt as the central design, a central pelt or a central salt bag was converted into a *miḥrāb*, and such rugs could then be designated as prayer rugs. In fact, all kinds of rugs are used for prayers in Islam, not only those with the ideal *miḥrāb* shape incorporated into the central design which are known specifically as prayer rugs. Whether such a practice goes back to ancient times in the Near East, when particular deities were associated with particular animals—Ishtar with a lion, the Weather God with a bull, the Anatolian Stag God—or even further back to shamanistic rites, cannot be demonstrated on present evidence; it remains an intriguing possibility. Assyrian relief and glyptic sculpture lacks the perspective to show what lay upon the floor or the ground, although scenes of kings and priests praying are quite common.

Occasionally a technique known only from felt is more or less imitated in a pile carpet. As J. Thompson has described,[87] an identical pattern is cut out of two pieces of differently coloured, plain-dyed felt. Each cut-out pattern is transposed and inserted into the other-coloured piece. The so-called S-pattern of some rugs often shows the appropriate alternation of colour that might have arisen from that felt technique (Fig. 24).

This way of looking at rugs implies that some grand workshop and court designs may have grown out of such medleys of appliqué on felt, which is not to deny that humble designs eventually benefit from and try to imitate court designs. It implies that many of the motifs have acquired grander symbolism in their passage through time. There are many rugs to which it cannot be applied; the influence of embroidery, which is particularly well suited to portraying flowers, plants and birds, and of tapestry is probably enormous, and the imaginative, creative ability to think up shapes and

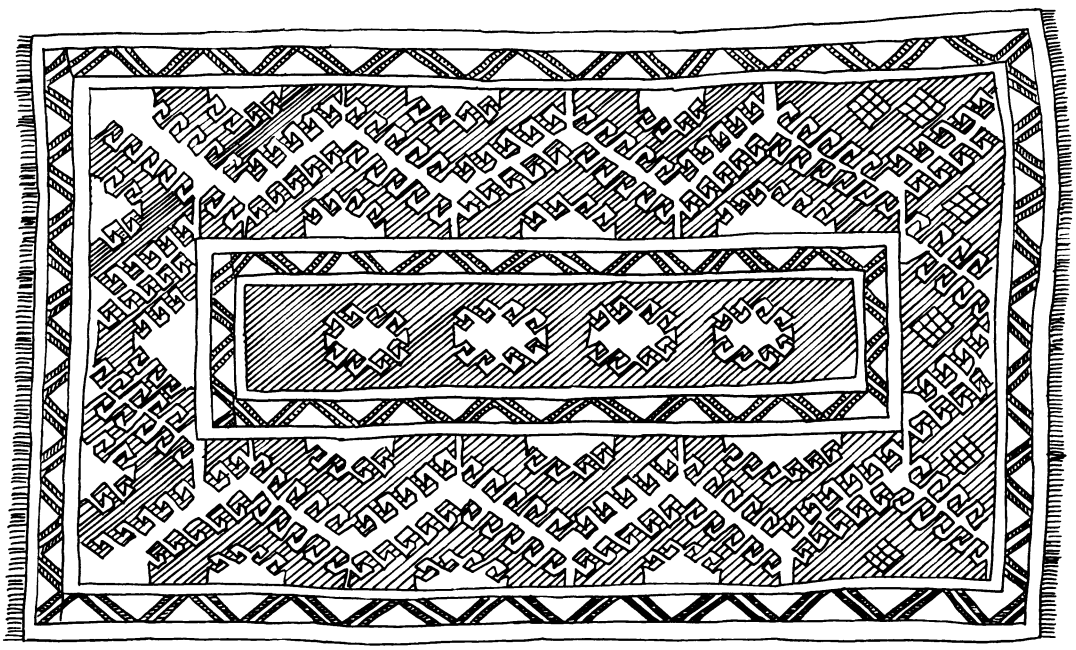

Fig. 20. Caucasian rug showing central motif interrupting background motif.

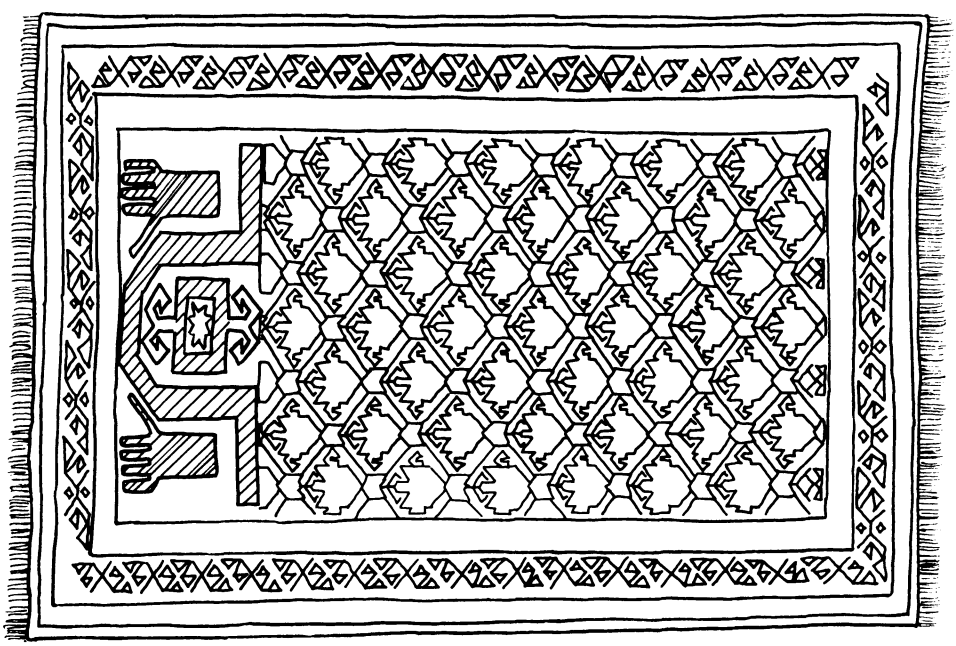

Fig. 19. Caucasian rug showing motif based on entrance-framing band from a tent.

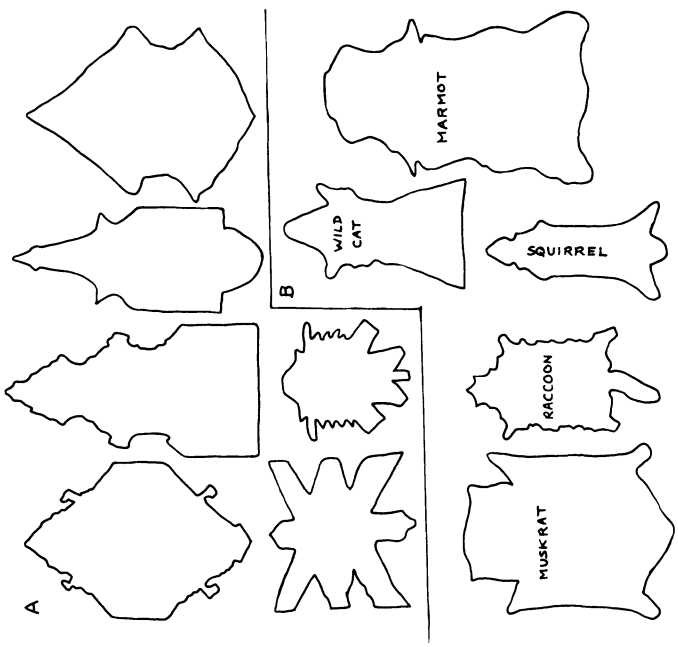

Fig. 22. Outlines: A—motifs from rugs, mainly central medallions; B—selection of animal pelts.

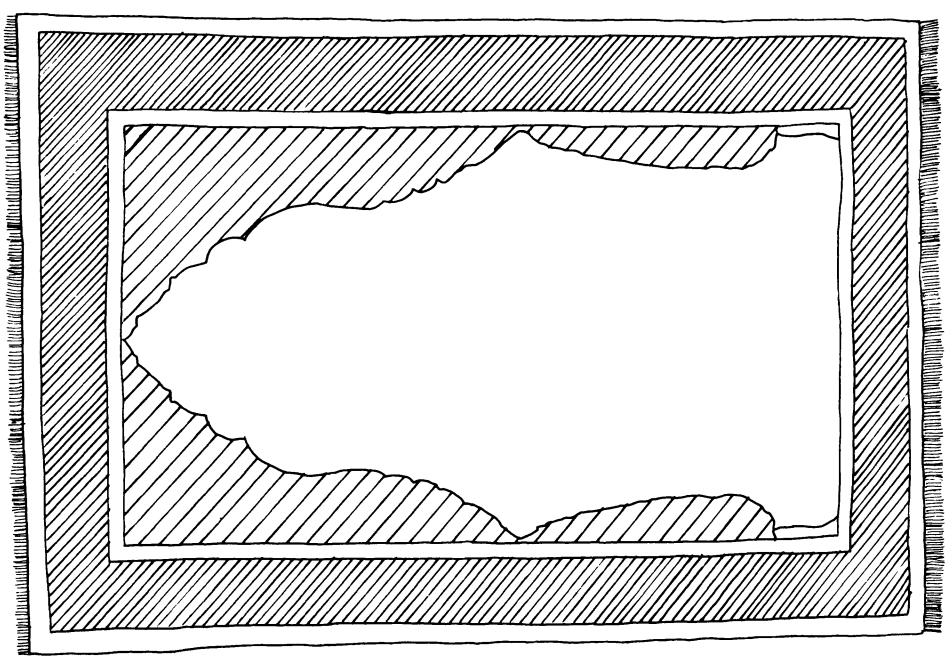

Fig. 21. Persian prayer rug with central design resembling a pelt.

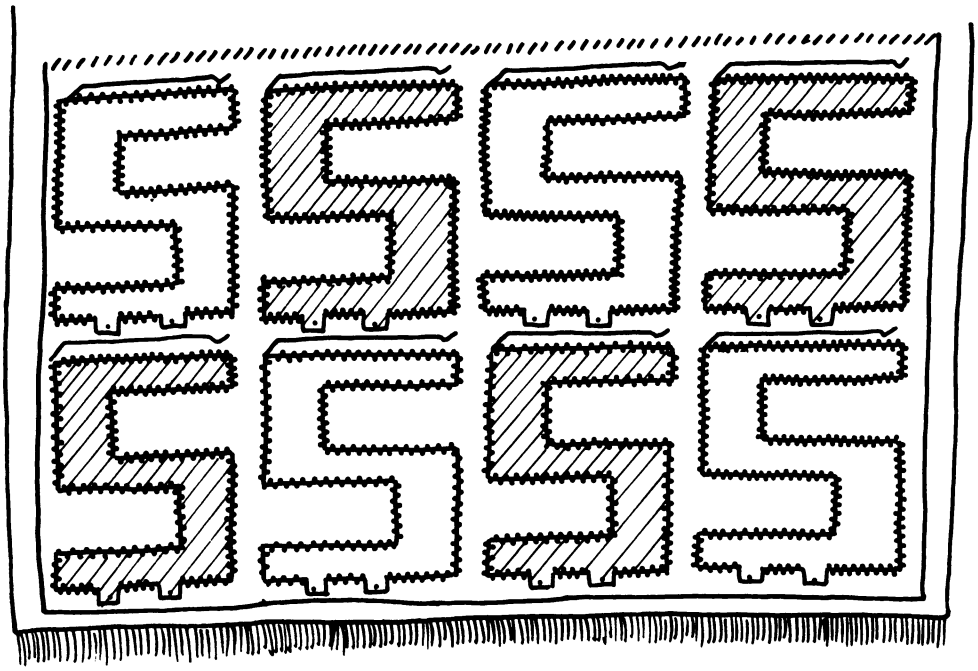

Fig. 24. S-design with alternating colours, edged with stitching effect, perhaps inspired by felt mosaic technique.

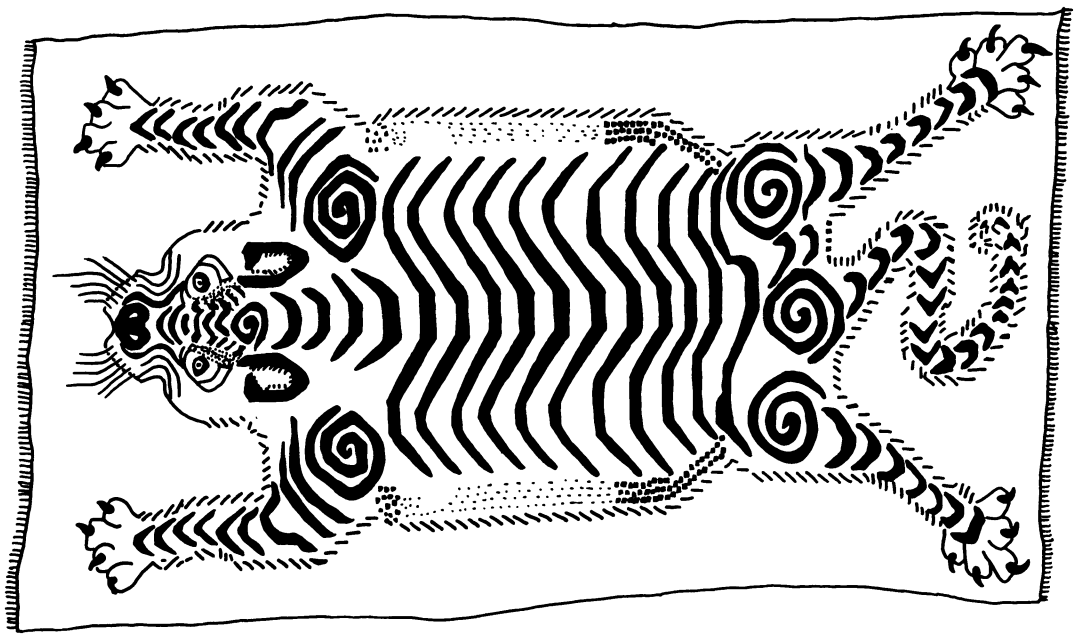

Fig. 23. Tibetan rug with tiger pelt forming the main design.

designs that do not have their inspiration in objects familiar from everyday life should not be ignored. Only recently has it become fashionable in the West to buy rugs with the less sophisticated designs from which the origins of some motifs may be deduced. But as far as Neo-Assyrian sources are capable of offering insights, in combination with the material from Pazyryk, it has become clear that many of the finest pieces of cloth were relatively small, and were sewn on to a backing cloth or felt that could be replaced from time to time, allowing a much longer and more flexible life to the most elaborate and costly pieces.

[1] This paper arose from an invitation by Miss Jennifer Scarce to speak to the Oriental Rug and Textile Study Group in Scotland in March 1989, and then, by Professor Robert Hillenbrand, to the British Institute of Persian Studies in October 1989. Many stimuli and improvements arose from both occasions, and many colleagues have contributed to the final version.

[2] E.g. M. Barrelet, "Un inventaire de Kar-Tukulti-Ninurta: textiles décorés assyriens et autres, *Revue d'assyriologie* 71 (1977); P. Albenda, "Assyrian Carpets in Stone", *Journal of the Ancient Near Eastern Society* 10 (1978).

[3] R. Pinner, The Earliest Carpets, *Hali* 5 (1982–3) pp. 111–15 *ibid*, I. N. Khlopin, "The Manufacture of Pile Carpets in Bronze Age Central Asia", pp. 116–19.

[4] J-M. Durand, *Archives Royales de Mari XXI, Textes administratifs* (Paris, 1983), pp. 409–11 discusses textual evidence concerning *mardatum* in detail.

[5] See H. Ling Roth, *Ancient Egyptian and Greek Looms* (1913, reprinted Bedford, 1978).

[6] M. van de Mieroop, "Crafts in the Early Isin Period", *Orientalia Lovaniensia Analecta* 24 (Leuven, 1987) pp. 35–6.

[7] VIII lxxiv 196.

[8] A. L. Oppenheim, "The Golden Garments of the Gods", *JNES* 8 (1949) pp. 172–93, with the reservations expressed by Barrelet, *op. cit.*

[9] A. R. George, *Minerva* 1/1 (1990) pp. 29–31.

[10] T. Talbot Rice, *The Scythians* (London, 1958), e.g. fig. 49, pl. 16.

[11] A. Parrot, *Nineveh and Babylon* (London, 1961), pl. 266.

[12] S. Dalley, Old Babylonian Dowries, *Iraq* XLII (1980), pp. 72–3.

[13] E.g. H. Waetzoldt, *Untersuchungen zur Neusumerischen Textilindustrie* (Rome, 1972).

[14] D. Zohary and M. Hopf, *Domestication of Plants in the Old World* (Oxford, 1988), pp. 114–19.

[15] M. Gittinger, *Master Dyers to the World. Technique and Trade in Early Indian Dyed Cotton Textiles* (Washington, 1982), p. 19. I am grateful to Dr. Ruth Barnes for this and other references and for useful discussions.

[16] Akkadian uses the same word for both.

[17] It was once supposed that Akkadian *sindû* meant "Indian cotton", see Sir John Marshall, *Mohenjo-Daro and the Indus Civilisation*, vol. I (1931, reprinted 1973) p. 33; but now *Chicago Assyrian Dictionary* S (1984), p. 284, s.v.sindû, "Indian" of timber only.

[18] For details, see E. J. W. Barber, *Prehistoric Textiles: the Development of Cloth in the Neolithic and Bronze Ages* (Princeton University Press, forthcoming).

[19] P. J. van der Feen, "Byssus", *Basteria* 13/4 (1949); R. D. Turner and J. Rosewater, "The Family Pinnidae in the Western Atlantic", *Johnsonia* 3/38 (1958). I am indebted to David Heppell of the Department of Natural History in the Royal Museum of Scotland for these references.

[20] F. Brunello, *The Art of Dyeing in the History of Mankind* (Vicenza, 1973), pp. 55–6.

[21] Brunello, *loc. cit.*

[22] J. P. Wild, *Textile Manufacture in the Northern Roman Provinces* (Cambridge, 1970) p. 20, to which add R. Heine, "Lana marina", *Museum Helveticum* 26 (1969), 48 ff., and S. Lauffer, *Diokletians Preisedikt* (Berlin, 1971), p. 264. I am grateful to Dr. Wild for these references.

[23] R. Pfister, *Textiles de Palmyre* (Paris, 1934), vol. I, p. 34.

[24] *Enciclopedia Italiana di Scienze, Lettre ed Arti*, Istituto Giovanni Treccani (1930), s.v. "bisso".

[25] P. L. Simmonds, *The Commercial Products of the Sea* (London, 1879), pp. 306–10).

[26] Mr. Heppell tells me that samples of byssos as spun yarn, a scarf and a pair of gloves can be seen in the Royal Museum of Scotland.

[27] S. D. Goitein, *A Mediterranean Society* (Berkeley and Los Angeles, vol. I, 1967), p. 106.

[28] H. Ecsedy, "Böz—An Exotic Cloth in the Chinese Imperial Court", *Altorientalische Forschungen* III (1975), 145 ff.

[29] A. Rona-Taş, "Böz in the Altaic World", *Altorientalische Forschungen* III (1975), 155–63.

[30] M. Lombard, *Les textiles dans le monde musulman du VII au XII siècle* (Paris, 1978) 133 ff., to which add Goitein, *loc. cit.* The latter gives an extensive discussion of Islamic textiles and dyes in vol. IV (1983), pp. 164–83.

[31] E. Mackay, "The Representation of Shawls with a Ripple Stripe in the Theban Tombs", Journal of Egyptian Archaeology 10 (1924), pp. 41–3. I am grateful to Dr. Helen Whitehouse of the Ashmolean for this reference.

[32] *Chicago Assyrian Dictionary*, s.v."būṣu", for references.

[33] Y. Aharoni, *The Land of the Bible, a Historial Geography* (2nd revised ed., London, 1979) pp. 246–8.

[34] J. C. L. Gibson, *A Textbook of Syrian Semitic Inscriptions. II. Phoenician Inscriptions* (Oxford, 1982) p. 34.

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[36] S. Moscati (ed.), *The Phoenicians, Exhibition Catalogue* (Milan, 1988), p. 539.

[37] BM, GR 1917.7–1.233.

[38] M. E. Burkett, "An Early Date for the Origin of Felt", *AS* 27 (1977), pp. 111–16.

[39] P. Steinkeller, "Mattresses and Felt in Early Mesopotamia", *Oriens Antiquus* 19 (1980), pp. 79–100.

[40] Talbot Rice, *op. cit.*

[41] J. Thompson, *Carpet Magic* (London, 1988) p. 77.

[42] M. Stol, in *Reallexikon der Assyriologie*, ed. E. Ebeling and B. Meissner, s.v."Kleidung" and s.v."Leder(industrie)".

[43] M. Mallowan, *Nimrud and its Remains* (London, 1966), vol. I, pp. 40, 105, 207, 293.

[44] Mallowan, *op. cit.*, vol. II, pp. 482, 560.

[45] I. Ziderman, "First Identification of Authentic Tekelet", *BASOR* 265 (1987), 25 ff.

[46] Whether this distinction is found in the Italian purple-dyeing industry is uncertain, and unlikely since it is not described by Pliny.

[47] N. B. Jankowska, "Some Problems of the Economy of the Assyrian Empire", *Ancient Mesopotamia*, ed. I. Dyakonov (Liechtenstein, 1982), pp. 258–60.

[48] W. von Soden, *Akkadisches Handwörterbuch* (Wiesbaden, 1965–81), s.v. "hurratu".

[49] Stol, *op. cit.*, s.v."Leder(industrie)" (1980–3), pp. 534–5, accepted by van der Mieroop, *op. cit.*, p. 153. Corrections should be made to all editions of texts published up to that date, including those from Tell al Rimah and Mari.

[50] See *Akkadisches Handwörterbuch*, s.v."hašmānu" and "haṣartu" and S. Kosak, *Hittite Inventory Texts* (Heidelberg, 1982), p. 201, quoting KUB 4:90 I 11 and 16; and IBoT 1:31 I 17.

[51] Stol *op. cit.*, s.v. "Kleidung".

[52] The complexities are discussed by M. Dietrich and O. Loretz, "Der Vertrag zwischen Šuppiluliuma und Niqmandu", *Welt des Orients* 3 (1964–6), 208 ff.

[53] Brunello, *op. cit.*, p. 98.

[54] Woad on its own produces blue, and is often used with a second, yellow dye to produce green. See Brunello, *op. cit.*, p. 150.
[55] The evidence concerning *hašmānu* both as a colour and as a gemstone will be treated in detail by Peter Kingsley in a forthcoming article. I am most grateful to him for discussion.
[56] *Lapid.* 57.
[57] Lombard, *op. cit.*, p. 143.
[58] Stol, *op. cit.*, s.v."Leder(industrie)", p. 534; the texts to which he refers are all ambiguous.
[59] E. R. Caley and J. F. C. Richards, *Theophrastus on Stones* (Ohio, 1956), commentary, pp. 191–3.
[60] See Dalley, *op. cit.*, with references.
[61] J. Trilling, *The Roman Heritage: Textiles from Egypt and the E. Mediterranean 300–600 A.D.* (Washington, 1982), p. 14; A. Baginski and A. Tidhar, *Textiles from Egypt, 4–13th c. C.E.* (Jerusalem, 1980), p. 9.
[62] J. Mayo, *A History of Ecclesiastical Dress* (Batsford, 1984), pp. 55, 129, 133.
[63] BIN 4 8:12, quoted by *Chicago Assyrian Dictionary*, s.v."sissiktu".
[64] E. Kühnel and L. Bellinger, *Catalogue of Dated Ṭirāz Fabrics: Umayyad, Abbasid, Fatimid*, (The Textile Museum, Washington DC, 1952); N. P. Britton, *A Study of Some Early Islamic Textiles in the Museum of Fine Arts* (Boston, 1938); for a picture, see R. Ettinghausen, *Treasures of Asia: Arab Painting* (Cleveland, Ohio, 1962) p. 65.
[65] E.g., A. Moortgat, *The Art of Ancient Mesopotamia* (London, 1969), pls. 65, 68, 85, 173.
[66] See British Museum sculpture WA 124563.
[67] R. M. Boehmer, "Phrygische Prunkgewänder des 8. Jahrhunderts v.Chr.: Herkunft und Export", *Arch. Anz.* 88 (1973), 149 ff.
[68] *op. cit.*
[69] See *Chicago Assyrian Dictionary*, s.v."sippu".
[70] A. George, *RA* 82 (1988), p. 144.
[71] Talbot Rice, *op. cit.*, pl. 14.
[72] A. Farkas *et al.*, *From the Lands of the Scythians* (Metropolitan Museum of Art, New York, and Los Angeles County Museum of Art, n.d.), pl. 23.
[73] Farkas, *op. cit.*, pl. 4.
[74] Talbot Rice, *op. cit.*, p. 133.
[75] E.g., Thompson, *op. cit.*, pp. 22, 46; L. Allane, *Oriental Rugs: A Buyer's Guide* (London, 1988), pls. 18, 28.
[76] E.g., Farkas, *op. cit.*, pls. 23–4.
[77] E.g., S. Reed, *Oriental Rugs and Carpets* (London, 1967), p. 136; A. Hopf, *Oriental Carpets and Rugs* (London, 1962), p. 189.
[78] E.g., Thomson, *op. cit.*, p. 125; Reed, *op. cit.*, p. 58; Hopf, *op. cit.*, pl. 36.
[79] Reed, *op. cit.*, p. 94; Thompson, *op. cit.*, p. 95.
[80] Thompson *op. cit.*, p. 99.
[81] E.g., Thompson, *op. cit.*, p. 123; Reed, *op. cit.*, p. 94; Hopf, *op cit.*, pl. 23.
[82] Outlines have been taken from Arthur Samet, *Pictorial Encyclopaedia of Furs* (New York, revised ed. 1950). I am grateful to the British Fur Trade Association for their help.
[83] Talbot Rice, *op. cit.*, pp. 117–20, 131–3.
[84] Some of these pelt motifs may overlap with those that have imaginatively been identified as stylised pictures of women giving birth. See M. Allen, *The Birth Symbol in Traditional Women's Art* (Toronto, 1981). A useful corrective to that view is given by A. Fleming, "The Myth of the Mother Goddess", *World Archaeology* 1/2 (1969), pp. 247–61, with references.
[85] See M. Lipton, *The Tiger Rugs of Tibet* (London, 1988), p. 10 and fig. 3.
[86] *Ibid*, p. 167, fig. 44.
[87] *Op. cit.*, p. 77.

Source of Illustrations

Fig. 1. P. Kohl, *The Bronze Age Civilization of Central Asia* (New York, 1981), fig. 2.
Fig. 2. Drawing by R. J. Dalley after H. Pittman, *Art of the Bronze Age* (New York, 1984), pl. 24.
Figs. 3, 17. Drawings by author and R. J. Dalley, after L. Allane, *Oriental Rugs*, pls. 10, 19.
Fig. 4. Drawing by author, after A. Parrot, *Mission archéologique de Mari* II/1, fig. 76.
Figs. 5, 6, 7, 10, 11. Drawings by R. J. Dalley.
Fig. 8. Reproduction courtesy Maggie Maddocks.
Figs. 9, 15, 22. Author's drawings.
Figs. 12, 13, 20, 21. Author's drawings, after Thompson, *Carpet Magic*, pls. 12, 13, 109, 116.
Figs. 14, 18. Drawings by author and R. J. Dalley, after Hopf, *Oriental Carpets*, pls. 33, 37.
Figs. 16, 19, 24. Drawings by author and R. J. Dalley, after Reed, *Oriental Rugs*, pls. 29, 36, 60.
Fig. 23. Drawing by R. J. Dalley, after M. Lipton, *The Tiger Rugs of Tibet*, pl. 34.