

#### IV.

NOTES ON SOME UNDESCRIBED OBJECTS FROM THE ROMAN  
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The excavation carried out in the South Annex at Newstead during the first half of the year 1910 was in some measure the result of an afterthought. Before its completion the greater part of the illustrations for the Newstead Report had been prepared; and although all the objects found were mentioned in "A Roman Frontier Post," and some of the more important of these were illustrated there, there still remain a few finds worthy of more detailed treatment. Before dealing with these, however, one fact in the history of the fort disclosed by the latest digging may here be placed on record. At some period, which cannot be defined with certainty, an alteration had been made on the South Annex, probably reducing its extent. The evidence leading to this conclusion was obtained through the discovery that a branch had been constructed from the ditch bounding the annex on the east, and ran from it in a south-westerly direction across the field O.S. 607, towards the line of the North British Railway. Its further course is lost in the railway cutting, but there can be little doubt that it must have united with the ditch bounding the annex on the west at a point where the railway line now crosses its course. The ditch in question is shown on the published plan of the Newstead Fort and its annexes, but, the

greater part of the accompanying text being in print at the time of its discovery, it was impossible to give details in the Report.

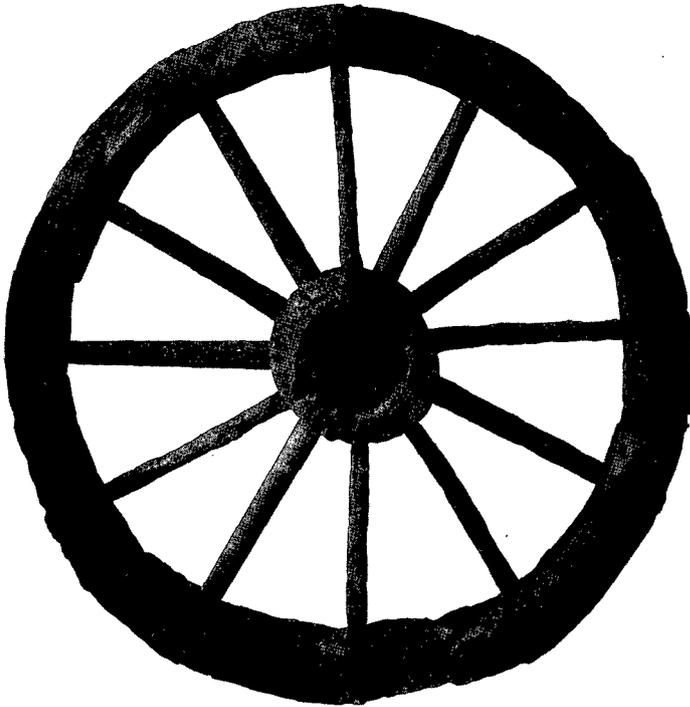


Fig. 1. Wheel from Pit lxx.



The lighter and more elegant type of wheel found at Newstead, having its felloe made from a single piece of ash, bent through artificial softening, was illustrated in the Report, plate lxxix. fig. 2; the  
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heavier wheel found in Pit lxx., although its measurements were detailed in the text, was not illustrated, and may be figured here (fig. 1). The wheel when found had been broken, and most of the felloes were displaced, but, being of oak, it has been possible, under the supervision of Mr Young of the Ashmolean Museum, Oxford, to restore it. The hub is the original, but five of the spokes and parts of the felloes are restorations. Its diameter is 3 feet 5 inches; the nave measures 16 inches long, with a diameter of 9 inches at the centre. The spokes, twelve in number, are nearly square. At the point of junction with the hub they measure  $2\frac{1}{2}$  by  $2\frac{1}{4}$  inches, tapering slightly towards the felloe. They are 12 inches in length, and are fixed into the hub with a square tenon, while the outer ends pass through the felloe and seem, from their worn appearance, to have at one time slightly projected. Unlike the finer wheels found in Pit xxiii., the felloe was made in six sections, the treads being attached to one another by wooden dowels. Each tread measures 1 foot 10 inches in length and  $3\frac{1}{4}$  inches in thickness, tapering to  $1\frac{1}{2}$  inches where it touches the ground. The projecting dowel measures  $1\frac{1}{4}$  by  $\frac{7}{8}$ th inches. No trace of any iron mountings belonging to the wheel were found with it in the pit. The pottery which accompanied it indicates that it probably dates from the Antonine period.<sup>1</sup>

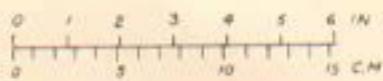
Pit lxxxvi., also dating from the Antonine period, as shown by its pottery, produced a good specimen of an iron knife (fig. 2, No. 3), 9 inches in length, of which the blade measures  $4\frac{1}{2}$  inches; the bone handle is in excellent preservation. From Pit lxxxviii.—a built well, rudely lined with stones—there was recovered an iron fork-like object (fig. 2, No. 4); its total length is  $8\frac{3}{4}$  inches, but one of the prongs appears to have lost its point. A small hole is pierced through the

<sup>1</sup> In the present year, 1913, both types of wheel noted at Newstead have been discovered in the German Limes Fort of Zugmantel. Although these correspond in method of construction, they display less careful finish than the Newstead examples.



1      2      3      4      5

Fig. 2. Fire-Shovel, Knife, and other iron objects.



tang, no doubt to fix it into wood. Two of these objects are preserved in the Kam Collection at Nymwegen. An object similar in form is illustrated in the catalogue of the Museum of Xanten. The shape in some measure recalls a hay-fork, but it cannot have been designed for such a purpose; its long tang thrust into a wooden shaft would hardly make a secure fastening. Indeed, the Roman hay-fork, several of which are figured by Liger (*La Ferronnerie*, ii. p. 101), like those of modern construction, was furnished with an iron socket. The Newstead find seems rather intended for insertion in a beam or thick plank, and to have been held in position by a nail or iron pin passed through the hole in the tang; but the use for which it was fashioned remains uncertain. The pottery found in association with it was Antonine.

Pit lxxxix. produced an example of an iron hoe (fig. 3). It closely resembles the hoe found in Pit xiv., but in size it is smaller; its whole length is only 8 inches. When found, a portion of the wooden shaft still filled the socket, and in it there remained a 3-inch iron nail driven into the end to expand the wood and hold it in position. The pit also held some pottery, a number of shoes, a good whetstone, and a small circular disc of sandstone  $1\frac{5}{8}$  inches in diameter, an object which belongs to native as well as to Roman sites.

A well-preserved example of a stone mortar (fig. 4) was found, with some late pottery, in Pit xciii. It is of circular shape 12 inches in diameter, with two handles, which project  $2\frac{1}{2}$  inches; the interior has a depth of 5 inches. The pottery associated with it was late.

Pit xciv. was one of those which had been lined with barrels; at the bottom lay a long iron fire-shovel (fig. 2, No. 5), 28 inches in length. The blade, which is somewhat pointed, measures  $7\frac{1}{2}$  inches in length by  $3\frac{3}{4}$  inches broad. The smith in fashioning the handle has given it one or two twists, and has beaten out the upper end to enable it to be grasped more firmly. This long shovel is an object to which it would not be difficult to find parallels; the type is quite well known

on the German Limes. Its form was dictated by the kind of hearth employed, which very commonly resembled a modern camp kitchen. A narrow trench was cut in the ground, and faced on either side with stones, leaving a space 6 to 9 inches in width. In this space a fire

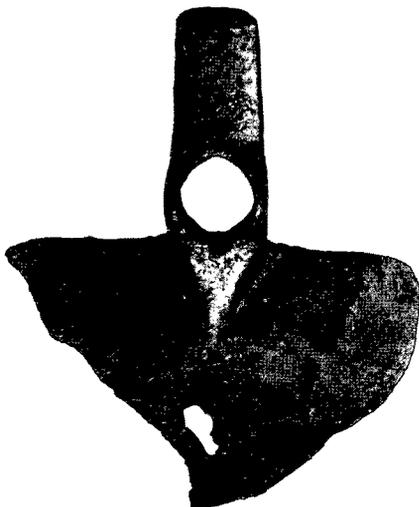
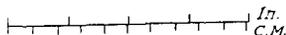


Fig. 3. Iron Hoe.



was kindled, and the cooking pots were placed in line above it, supported on the stone kerbing, or possibly on iron bars. One of these hearths was found in the large courtyard house, block xiii., at Newstead; another was lately unearthed in the central building of the fort at Cappuck.

Pit xcv. was of unusual interest, for not only did it produce a number of objects presenting uncommon features, but it contained evidence of its period in a well-worn first brass coin of Trajan, together with pottery of later type. Several of the finds seemed to belong to a cart

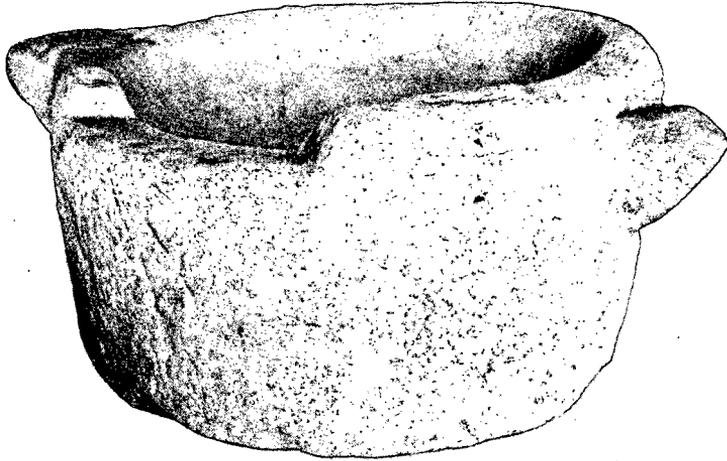
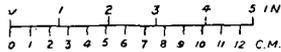


Fig. 4. Stone Mortar.



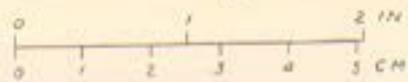
or to harness; among these was the hub of a wheel with two spokes, which, unfortunately, could not be preserved. This find perhaps gives a clue to a curious object of iron (fig. 2, No. 1). This consists of a rounded bar 18 inches in length. At one end the bar is bent back so as to form a ring; at the other it has been curved downwards,

and from its point two thinner pieces have been drawn out at right angles and turned backwards, so as to form spirals. At the point of bifurcation the iron has been flattened and a hole pierced through it. The whole conveys the impression that it was fastened horizontally by pins passing through the ring at one end and the hole at the other into wood, so as to form the rail of a seat. The piece of iron (fig. 2, No. 2), 6 inches in length, tapered at one end, pierced with a hole at the other, suggests a linch-pin.

The objects which follow (fig. 5), though they are not types of ornaments I have met with elsewhere, seem without doubt to belong to harness. They consist of four leaf-shaped pendants of thin bronze, 3 inches in length, each attached to an iron ring  $\frac{3}{4}$  of an inch in diameter. The strip of metal from which each of these pendants has been formed is at the upper end wound round a portion of the ring from which it hangs; immediately below, it is beaten out so as to form a concavity at the back and a rounded surface in front. At the lower end it is hammered to a slender point. In addition to these four objects is a fifth pendant, consisting of a ring of brass, to which was attached a leaf-shaped tongue of the same metal, 2 inches in length. When shaken, the metal tongue striking the ring gives a clear jingling sound, and probably it was designed to take the place of a small bell on the harness. Associated with these was a circular metal boss,  $2\frac{1}{4}$  inches in diameter, probably a harness stud; a small circular disc of brass; and an object of bronze which may have formed the handle of a small cup. In addition to these objects were two iron buckles (fig. 6)—a much less common find than might be expected,—and a very well-preserved iron key. It is probable that the buckles, the large circular disc, and the pendant ornaments had all been attached to some harness, of which the leather portions had entirely disappeared. More than once, as in Pits xxvii. and lx., the studs which had been employed to decorate leather were preserved, while the leather itself had entirely disappeared. Shoes and fragments of



Fig. 5. Harness Mountings of Bronze, Pit xov.



leather sheets, which probably formed part of garments, were not uncommon; but there was hardly a trace of straps or belts, possibly

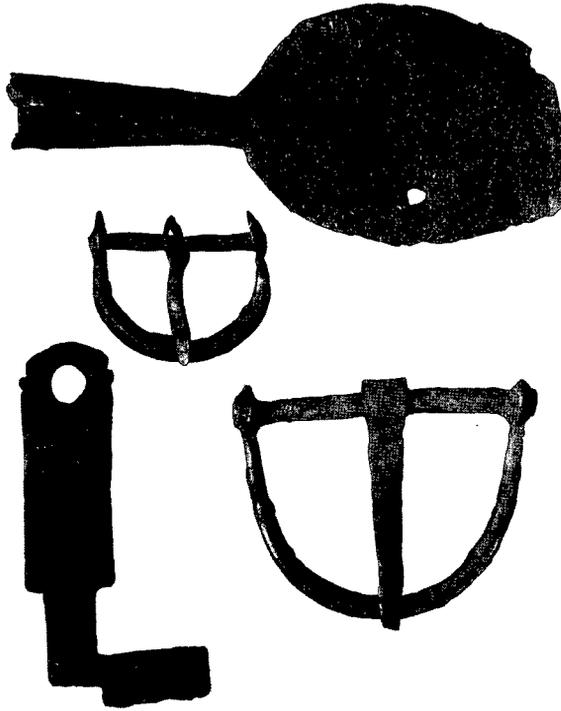
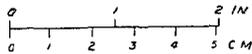


Fig. 6. Spearhead, Buckles, and Key.



due to some difference in the treatment of the skins. The spearhead illustrated in fig. 6 is of interest as an example of a weapon turned to some secondary purpose; the point has disappeared, but the edge

has been carefully sharpened. Its exact provenance is uncertain. One more object from Pit xev. may be noticed here. It consists of a pick

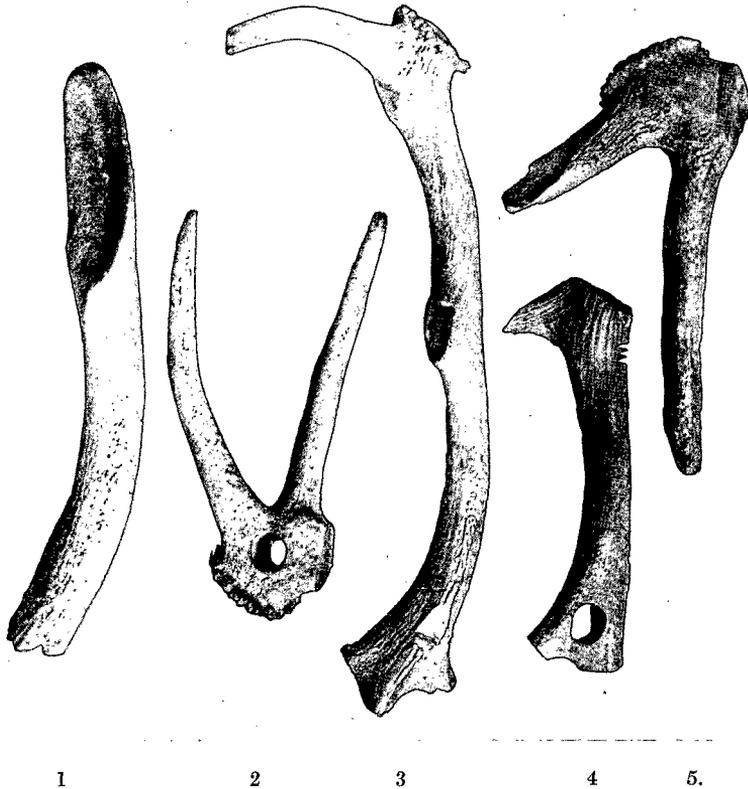
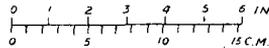


Fig. 7. Implements of Deer Horn.



(fig. 7, No. 3),  $18\frac{1}{2}$  inches in length, fashioned from the antler of a red deer. The actual pick is formed by the brow tine, the burr being left

in position to give weight to the head of the implement; the bez and the trez tines are removed; the upper part of the antler above the cup has been cut away, leaving just enough of the expanding beam to allow the pick to be grasped tightly in the hand. The specimen is of unusual interest, because not only is the point blunted by use, but the shaft still retains the high polish given to it by the hands that grasped it. I have grouped with this object a few deer-horn tools found in other pits or in ditches. From the overlapping ditch in front of the early south gateway of the enlarged fort is a portion of the beam of a great antler (fig. 7, No. 1), hollowed at one end to a gouge-like form. fig. 7, No. 2, from Pit xcvi., consists of the burr of the antler with the brow and the bez tines. Just above the burr a hole has been perforated through the base of the beam; into this probably a shaft was inserted, the whole forming a rake. Fig. 7, No. 4, probably a broken pick, came from the ditch of the early fort. Fig. 7, No. 5, is a short pick from Pit cv.

In addition to the specimens of deer-horn tools illustrated, I may mention a strong, well-preserved pick found in Pit xcvi., and a short hammer-like object from the pit in the Principia. This differs from all the others which I have noted in being composed of two separate pieces. The shaft is composed of a portion of the beam of an antler, 8 inches in length. An upper portion of the antler has been sawn off below the cup, leaving two tines; one of these has been thrust into the improvised shaft, and the other forms the pick or hammer.

The find of these primitive tools on a Roman site raises an interesting problem. Their use goes back to a period of remote antiquity, long before the coming of the Romans. They were used by the neolithic flint miners; many were found in Grimes Graves; they have been found beside the skeletons of miners who had lost their lives in neolithic workings in Belgium.<sup>1</sup> They were, in

<sup>1</sup> Sandars, "On the use of the Deer-Horn Pick in the Mining Operations of the Ancients," *Archæologia*, vol. 62, p. 101.

fact, the most typical of early mining tools, and as such they found their place at Newstead, for they must have been used to dig out just such pits as those in which we found them. But the question which naturally arises is, By whom were they used? Were they the tools employed by Roman legionaries or auxiliaries, or were they purely native products—native tools serviceable alike for the digging of pits or for rude husbandry? In our times it would be difficult to conceive that men who possessed such serviceable tools as the picks and hoes of iron of which the Newstead collection provides many examples, could turn from them to use such primitive implements. The deer-horn pick does not appear to be a common find on Roman sites. I do not find it among the relics illustrated in the reports of the German Limes Commission, although small objects made from antlers are present. Deer-horn picks are, however, noted on some Roman sites when the native element must have been present, such as Silchester or Maumbury rings at Dorchester; and they are certainly present on native sites occupied during the Roman period, such as the crannogs of Lochlee and Lochspouts—indeed, from both of these the evidence was clear that the antlers of the red deer formed the material from which many of the tools and implements used by the lake-dwellers were manufactured. It would not be difficult to multiply instances of the occurrence of such picks on native sites, but the evidence before us seems sufficient to indicate that among the Newstead relics they must be classed with the weaving combs, the most of the fibulæ, the brass torc from the early ditch, and some at least of the pottery, as relics of the native population—a population of which we have much to learn, but towards the investigation of whose civilization the collections gathered together from our Scottish Roman sites are of the utmost value.

An object from Pit xvi. seems worthy of illustration. It is an iron rib 25 inches in length, unfortunately broken in two pieces (fig. 8). At each end the metal has been hammered flat into a circular terminal,



pierced with a hole through which a nail or stud had been inserted to fasten it to wood. In addition to the nails at the terminals, the rib had been perforated with four other nail-holes. It seems probable that it was a rib employed to hold a shield together. In its shape it resembles the object from Pit xvi. which I have identified as a shield rib, but it differs from it in two important particulars: instead of being flat on one side and rounded on the other, it is rectangular in section, and of a uniform thickness of about  $\frac{1}{4}$  of an inch. And further, instead of being quite straight, it is slightly curved at  $3\frac{1}{4}$  inches from each end, so as to form at these points a semi-circular loop rising to about 1 inch above the backing to which it was fixed, probably with a view to the insertion of a strap. The shield rib found in Pit xvi., and the three portions found in the ditch of the early fort, are all flat on one side, rounded on the other, and all must belong to the first century.

Unfortunately, there was no "sigillata" in Pit xcvi., the only pottery being fragments of amphoræ; but none the less I think it may be assigned to the Antonine period. It was one of the few pits lined with barrels. None of these pits could be assigned to the Agricolan advance, and certainly all the stone-lined pits or wells belonged to the later period. The distinction between the two periods at Newstead is always a matter of importance. In the years which separated the Agricolan from the Antonine occupation a very distinct change had occurred in the forms and material of the pottery, and probably to some extent similar changes took place in other objects; it is thus possible that this iron rib is an Antonine shield-mounting. The only example I have noted of what appears to be a similar object is a fragment found in 1910 in excavations on the site of the

Fig. 8.  
Shield Rib of  
Iron. Scale  $\frac{1}{4}$ .

legionary fortress at Mainz.<sup>1</sup> This fragment, which is only  $5\frac{1}{2}$  inches long, appears to belong to a rib of the same pattern; it shows the rounded terminal perforated for a nail, and about  $3\frac{1}{2}$  inches from the



Fig. 9. Portion  
of Shield Edging.  
Scale  $\frac{1}{2}$ .

end the same curve exhibited in the Newstead find. If the identification of the object as a shield rib is correct, it is obvious from its form that it must have been attached to the back of the shield, which would be easily slung or carried by means of a strap or thong passed through the loops formed by the curves at either end.

The exact form of the Roman shield no doubt varied from time to time. On the Trajan Column the two shapes exhibited are the long, rectangular shield of the legionary, slightly curved, the better to cover the body, and the oval shield used alike by the auxiliaries and the Dacians. In both of these the front is covered with what appears to be decorative metal-work; in the centre a projecting iron boss, and very frequently, following the longer axis of the shield, a rib bifurcating at either end. These long ribs do not appear when the reverse of the shield is depicted, but in many instances a short rib is shown crossing the back of the boss, by which the shield was grasped. Examples of these handles have been recently found at Hofheim, some in the form of a short bar and others showing bifurcation; and it is possible the two portions of shield ribs of this pattern found in the ditch of the early fort,<sup>2</sup> both of which show bifurcation, were handles.

One other shield fragment may be noted here: it is a piece of bronze or brass curved so as to form an edging (fig. 9). The exact position of this find is uncertain, but its patinated condition shows that it came from near the surface. Many similar fragments have been found at

<sup>1</sup> *Mainzer Zeitschrift*, Jahrgang vi., Ab. 28, fig. 111.

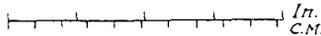
<sup>2</sup> *A Roman Frontier Post*, plate xxxiv. figs. 4 and 5.

Hofheim, where they have been identified by Professor Ritterling as having been employed to cover, and so protect, the edges of shields.<sup>1</sup>

Pit xcix. produced a bronze cooking pot (fig. 10), circular in shape and flat-bottomed, 5 inches in height, 7 inches in diameter. The rim round the mouth is slightly curved outwards, and through two



Fig. 10. Cooking-pot of bronze, Pit xcix.



holes pierced in it the iron handle is fixed. Punctured on the side is the inscription, TVRMA CRISPI — NIGRI. Inscriptions of a similar character, employed to denote the property of cavalry soldiers, are not uncommon among the finds from the German Limes Forts. It is probable that in all of them the name of the owner is preceded by

<sup>1</sup> Ritterling, *Das Frührömische Lager bei Hofheim in Taunus*, 1913, p. 143 and Taf. xviii.

words indicating the *Turma*, or troop, to which he belonged. A metal plate found at Regensburg bears the inscription, T. CLAVDI SEVERI—FELICIS, while among the pottery from the fort of Cannstatt, which was garrisoned by an *Ala*, the following inscriptions have been noted: T. DOMITI—APRILIS; T. NOR[BANI]—VERECVNDI; T. MARINI—LATINI.<sup>1</sup> At Newstead, altogether seven bronze cooking-pots came to light, of which six were found in association with early pottery. The cooking-pot in question, though less well-preserved, resembled one of those found in the pit at the Baths (No. lvii.), but the pottery associated with it appeared to belong to the Antonine period. Perhaps in this find we have an indication that the *Ala Augusta* of the Vocontians, whose presence at Newstead is commemorated by a dedication of an altar to the *Campestres* by the decurion *Ælius Marcus*, formed part of the garrison in the second century.

In association with a small group of early pottery at the bottom of Pit cii. lay some fragments of leather which had once been covered with a pattern executed with small metal studs, all of which had disappeared (fig. 11). A closer examination of the fragments showed that they had formed part of a leather object similar to that found in Pit lxxviii., which, for purposes of comparison, is reproduced in fig. 12. This object, I think, can now be identified as a chamfron. Examples of the chamfron or frontlet in Roman art are rare. On the Trajan Column the heads of the horses have no covering, except those of a company of Sarmatian archers, who fight as allies of the Dacians; in this group both horses and men are covered with scale armour, which was no doubt composed of close-fitting leather, upon which the overlapping scales were sewed. The covering only stops short of the horse's nose; even the eye seems to have been covered by a disc, probably of metal, perforated with twelve holes. A type of protective covering worn by a horse which was probably more common is to

<sup>1</sup> Barthel, "Die Erforschung des Obergermanisch-Raetischen Limes, 1908-1912," *Bericht der Römisch-Germanischen Kommission*, 1910-11, pp. 149 and 162.

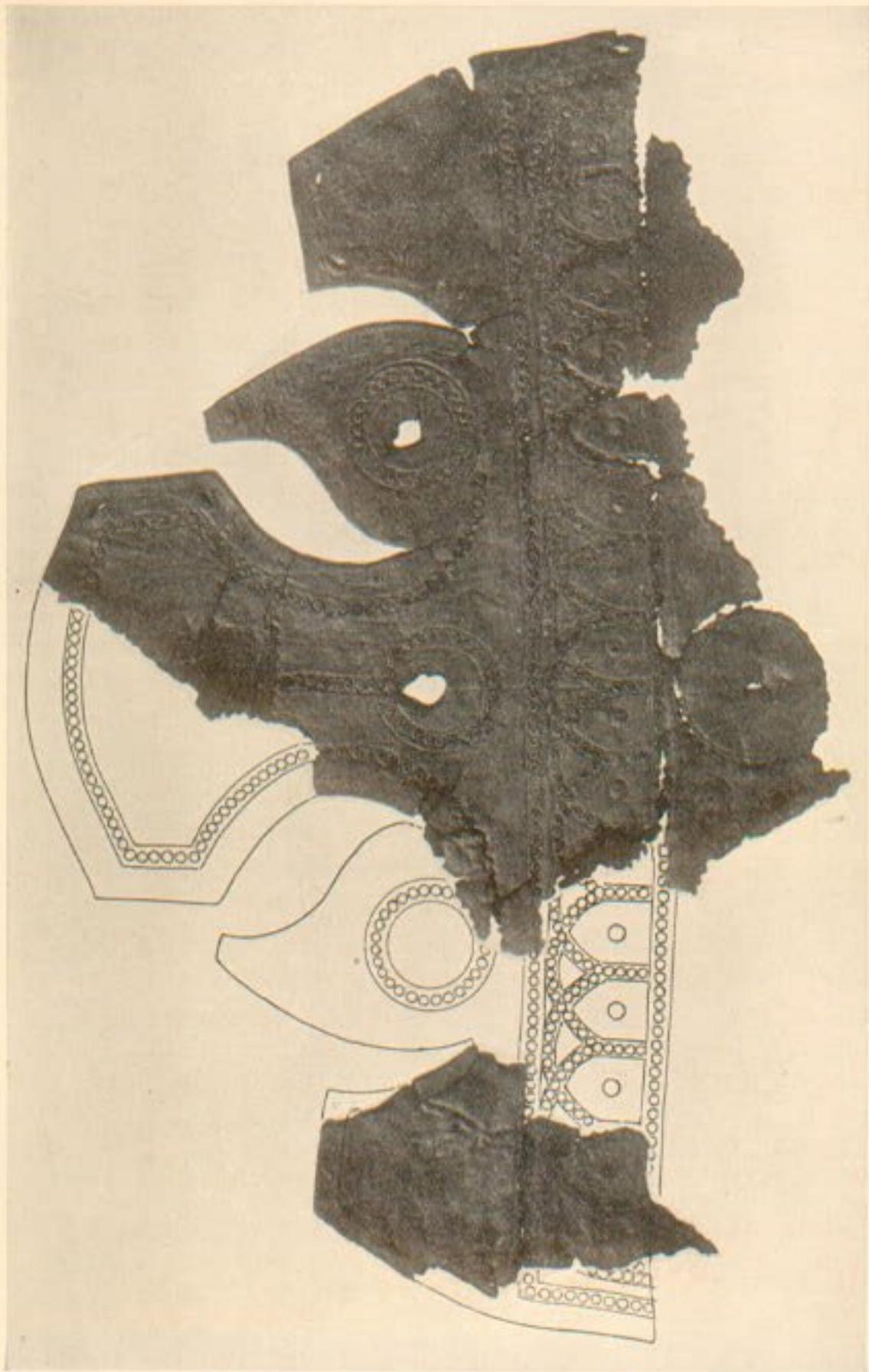
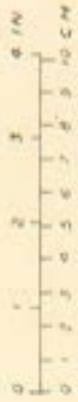


Fig. 11. Portions of a Leather Chamfron. Pit eii.



be seen on a wall-painting figured by Liger.<sup>1</sup> It consists of a plate of embossed metal or of leather, with metal decorations, covering the horse's face and coming down to protect the nose. The eyes and nostrils are, however, uncovered. This perhaps, as it protects the front of the face alone, is more strictly termed a frontlet. With the exception of these examples from Newstead, it is doubtful whether there exists any specimen of a leather chamfron dating from the Roman period, but in more than one European collection metal mountings are preserved which may have formed part of such objects. The most significant of these are the perforated metal discs undoubtedly intended to serve as a protection for the eyes of a horse. A pair of these was found during the excavation of the legionary fortress of Novaesium. They are made from oval plates of bronze  $5\frac{1}{4}$  by  $4\frac{3}{8}$  inches. The centre of the plate has been hammered outwards, or possibly cast, so as to form a domed projection, the whole surface of which is covered with an open-work pattern admitting light, and yet sufficiently strong to ward off a blow. On the flat rim surrounding the open-work a series of holes has been bored by which the mounting could be attached to a leather backing.<sup>2</sup> Two pairs of mountings slightly differing in shape but evidently constructed with the same end in view have been found in the bed of the Rhine near Mainz,<sup>3</sup> while in a find from Kumpfmühl<sup>4</sup> near Regensburg (Castra Regina) we note the occurrence of a highly decorated example of one of these eye-covers in association with an object of bronze, which must have served as a frontlet. The whole of the surface of this object—a curved plate  $14\frac{1}{2}$  inches in length by 6 inches at its widest part—is richly

<sup>1</sup> *La Ferronnerie*, vol. ii., fig. 102.

<sup>2</sup> Lehner, "Die Einzelfunde von Novesium," *Bonner Jahrbücher*, Hefte 111-112, Taf. xxx. A, fig. 36.

<sup>3</sup> *Allertümer unserer heidnischen Vorzeit*, Band V., Taf. 17.

<sup>4</sup> Ein in Jahre 1892 bei Regensburg gemachter Fund aus römischen Zeit. *Verhandlung des historischen Vereins von Oberpfalz und Regensburg*, Band 46, p. 299, Taf. ii. I am indebted to Dr F. Drexel for this reference.

embossed with figures. From the style of decoration, it probably dates from the middle of the second century, and should obviously be classified as parade armour. Examples of a chamfron combining the scale armour of the Sarmatian horsemen with the long metal plate covering the face and nose have been in recent years brought back to us from Thibet—an example of the survival in Asia of fashions which in the Roman period were those of Europe. Two of these are preserved in the Victoria and Albert Museum. Both are made of leather, covered with small square metal scales, each having a projecting boss in the centre. Down the medial line of the horse's face the metal scales are replaced by a long solid metal plate attached to the leather. It attains its greatest width between the eyes, where it is curved outwards, and then gradually tapers to a point just on a level with the nostrils, at which there is attached to it a leaf-shaped terminal hinged so as to bend downwards, forming a protection to the horse's nose. The leather portion of the chamfron, however, stops short of the nostrils. The eyeholes measure  $3\frac{1}{8}$  by  $4\frac{1}{4}$  inches, and do not appear to have had any form of covering.

The Newstead chamfron from Pit lxxviii. (fig. 12) shows no trace of any metal plates or scales having been attached to it; and in view of the elaborate decoration which covers the whole surface of the leather, we may feel sure that it had no such additional protection. The exact method by which it was attached to the horse's head must remain uncertain; in its present condition it is obviously incomplete. I think, however, there can be little doubt that the broad base of the figure formed the lower end of the chamfron, and was fastened round the head above the nostrils; the single line of stitching-holes along this margin may have been employed to attach it to a strap or to a metal headstall. At the opposite end the central hammer-shaped peak corresponds to the plate by which in mediæval armour the chamfron was attached to the crinet. On each side of this peak two holes have been bored with an awl, to be employed in stitching on a



Fig. 12. Leather Chamfron. Pit lxxviii. Scale  $\frac{1}{4}$ .

strap or some similar attachment. Two corresponding holes may be noted on the peak of the wing-like projection on the left—the opposite wing is incomplete. When we examine the less perfect specimen from Pit cii. we note similar stitching-holes both in the central peak and on the point of the wing. It seems evident that when the chamfron was in use the sides of the terminal peak were connected with the points of the wing-like projections, and through the more or less circular opening thus contrived the ears of the horse were passed. The peak of the frontal would in this way lie on the horse's poll, while the two leaf-shaped points on either side of it would show against the base of the ears.

I have quoted the Thibetan chamfron preserved in the Victoria and Albert Museum as an example of the survival of scale armour. It is interesting to note that the same collection contains examples of Jazerine tunics from Central India, dating from the eighteenth or early nineteenth century, exhibiting the same methods of leather decoration employed at Newstead. These tunics, which were made of leather covered with velvet, were worn over chain armour. Upon the surface elaborate patterns were worked by means of small gilt-headed nails thrust through both velvet and leather, and kept in position by bending back the points against the interior surface, just as we find them in the Newstead chamfron.