THE ROMAN SADDLE

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I

In 1967 Dr W. Groenman-van Waateringe published the leather finds from Valkenburg and Vechten in the Netherlands which included several pieces from Roman saddles (Fig.1). In her restoration these pieces formed the saddle covering. Each saddle had a large main piece (Fig.1,a) which covered the seat and the inside of the four pommels and four outside facings of the pommels which were stitched to the main piece. These are roughly triangular in shape with a rounded top. They appear to be of two types: Type 1 (Fig.1,e) has one rounded and one pointed corner at the base and type 2 (Fig.1,d) has both corners pointed. These are shown in a schematic form in Fig.2. Dr Groenman-van Waateringe's analysis of these pieces was accompanied by a reconstruction drawing of the assembled pieces of leather (Fig.3).

This was a tremendous step forward in our understanding of the Roman saddle but Dr Groenman-van Waateringe did not explain how it fitted to the wooden frame that she envisaged. The existence of so-called pommel stiffeners made of bronze with nail holes along the edges (Figs.4 & 5) proves that some saddles at least must have had a wooden frame or tree but, in their reconstructed form, there seemed to be no realistic way that the Valkenburg/Vechten pieces could be fitted to such a tree. This has led many people to suggest that it was just a loose cover for a saddle.

II

In 1984 whilst preparing a small book on a Roman cavalryman my attention was drawn to the saddle because it dictates the fighting capabilities of the horseman. The consensus of opinion was that there was no true saddle at this time and this, combined with the lack of stirrups, seriously restricted the capability of the cavalryman. The sculptural evidence from first century tombstones suggested that the first of these statements was not true; one way to test this was to build a replica of a Roman saddle and to ride it.

It is essential that any rigid saddle should be made to fit a particular build of horse. A fourteen hand pony was selected, the average size of the horse skeletons found at the Roman

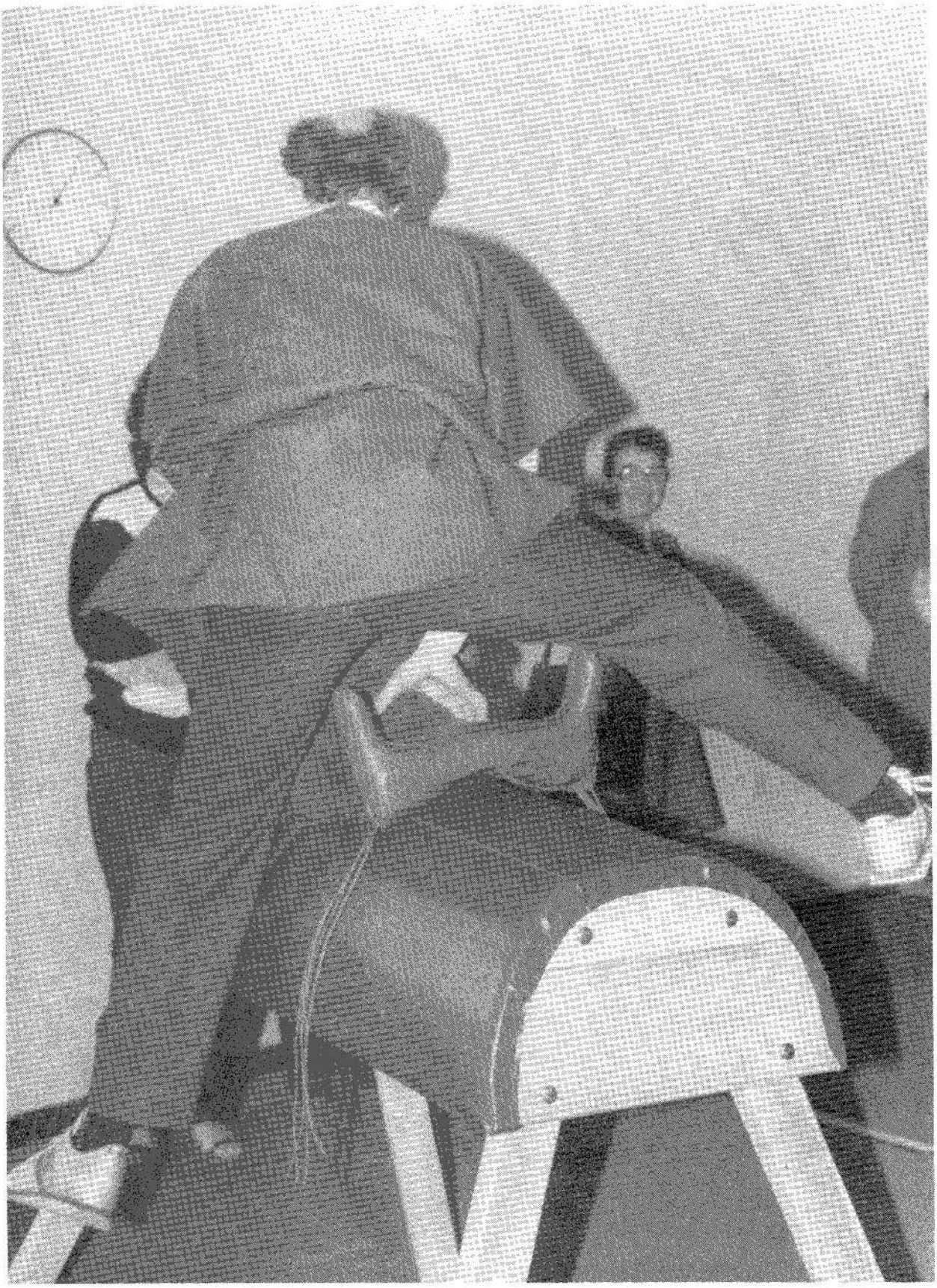
cavalry fort at Krefeld-Gellep in Germany, and the saddle made to fit it. First the contours from the withers to the centre of the back were reproduced as a forma on which the saddle tree could be constructed. The tree of laminated strips of wood was glued together in the same way as the Dura Europos and Fayyum shields and reinforced with an iron backet across the withers.

The reconstruction of the back of the tree presented no problems as a pair of L-shaped pommel stiffeners from Rottweil, now in the museum at Aalen in Germany (Fig.4) gave not only the shape of the pommels but also the exact dimensions of the back of the saddle. Fortunately the pommels fitted the Valkenburg leather (Figs.1a & 2) almost perfectly. The distance from the back to the front pommels could easily be calculated as could the distance between the front pommels, but although two front pommel stiffeners had also been found at Rottweil (Fig.5) these merely fit over the pommels themselves and provide no clue as to the shape of the front of the saddle.

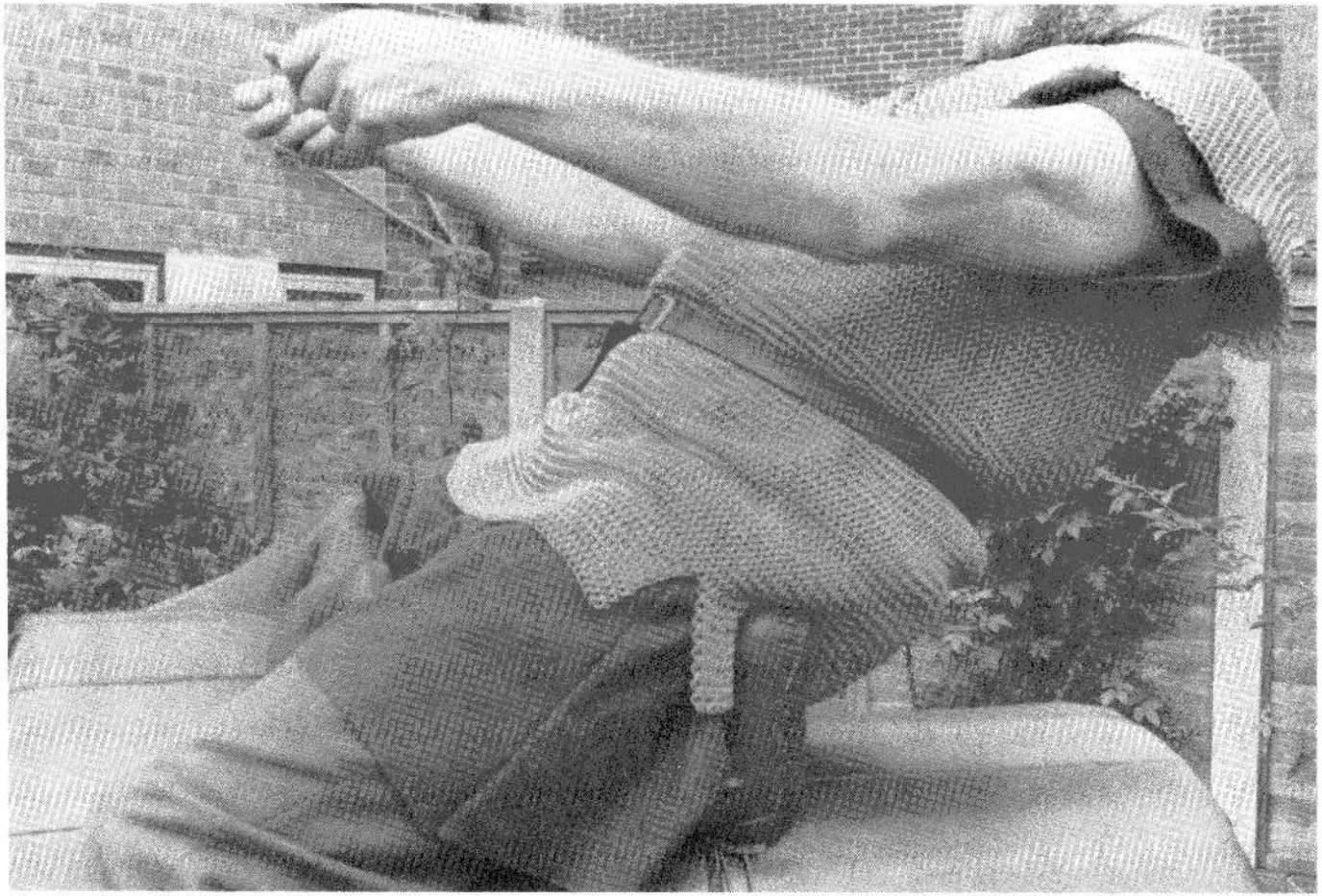
Any saddle has to fit across the withers of the horse and therefore must rise to a peak at the front forming an angle of about 60°. Assuming that the pommels stuck out at right angles to the tree they would have projected sideways at an angle of about 30° to the horizontal (Fig.6a). This was the most straightforward and obvious reconstruction. To put them at any other angle would have required an arbitrary interpretation of the evidence and would be unwarranted. As will be seen later this proved to be of paramount importance in the understanding of the function of the front pommels.

At this point the reconstruction came to a halt as it was impossible to determine the depth of the sides of the tree. It had been assumed that as the front pommels on the main Valkenburg leather (Fig.1a) were smaller than the back ones that the Type 1 pommel facings, which were also smaller, went with them. However if the lower part of the pommel facing (D-E on Fig.7a) to the dart and the leading edge of the side panel (B-C) to the bottom of the pommel were stitched together, then the whole thing would turn under forming a sort of bag. Not only would this solve the problem of how the leather fitted over the tree but it would also determine the depth of the side which had to be limited by the maximum extent of the folded side panel (B-C). This seemed to be confirmed by the stitching, for the pommels themselves had been stitched from the inside with the leather turning inwards to form an invisible top seam (Fig.7a, S). This was done by pre-punching the holes with an awl and

Pl.I: At Durham, the saddle proved remarkably easy to mount despite the lack of stirrups.



Pl.I



Pl.II

sewing from both front and back using two pig hairs attached to either end of a piece of thread. Once the leather had been fitted over the pommels all further stitching had to be done from the outside accounting for the different coarser stitching on the dart and sides (Fig.1a).

It required an enormous amount of trial and error to make the frame the right shape to fit inside the leather as it had to be stitched up first but, after tearing the first cover and restitching the second so many times that the edges disintegrated, the wood and leather finally fitted. the result was reminiscent of the lozenge shaped saddles shown on many first century tombstones such as that of Gaius Romanius at Mainz (Fig.8a) and the one shown on the Julii monument at St. Remi in southern France (Fig.8f).

The crescent shaped holes (Fig.2,X,X,X,X) on the main Valkenburg leather and also on other fragments coincided with the lower edge of the tree. These are clearly for attaching cords or thongs to the edge of the tree. These cords can be seen on many Roman sculptures and had a dual purpose; to tie baggage to the front and back of the saddle and to suspend decorations when on parade. At first I thought they might be for attaching the girth strap but they would be far too flimsy.

The archaeological remains tell us nothing about the attachment of the girth strap. One must assume that the tree was not totally covered by the leather and that the girth strap was attached directly to the tree. This may have been done by the use of saddle flaps. These seem to be shown on the Julii monument (Fig.8f). If this is the case then the girth strap, the crupper and the breast plate may all have been attached to the flaps (see Fig.9e).

Although the bronze pommel stiffeners had proved very useful in making the reconstruction, their exact function is far from obvious. It is uncertain whether they fitted inside or outside the leather covering. The examples from Newstead in Scotland have names scratched on them which suggest that they must have been on the outside but they also have traces of leather on the outside which suggest the opposite. One could argue that the names were put there by the bronzesmith to tell the saddler which saddle they were for or on the other hand that the traces of leather were from a saddle cover. Since some have nail holes and some stitching holes it is difficult to believe that they had any strengthening function. They must therefore

Pl.II: The saddle's horns provided a high degree of stability for the rider.

have been either for shaping the pommel on the inside or purely for decoration on the outside. Used outside they would certainly have looked very flashy and typically Roman. However there is little to support this suggestion and Mrs. van Driel-Murray (see below) strongly favours the former solution.

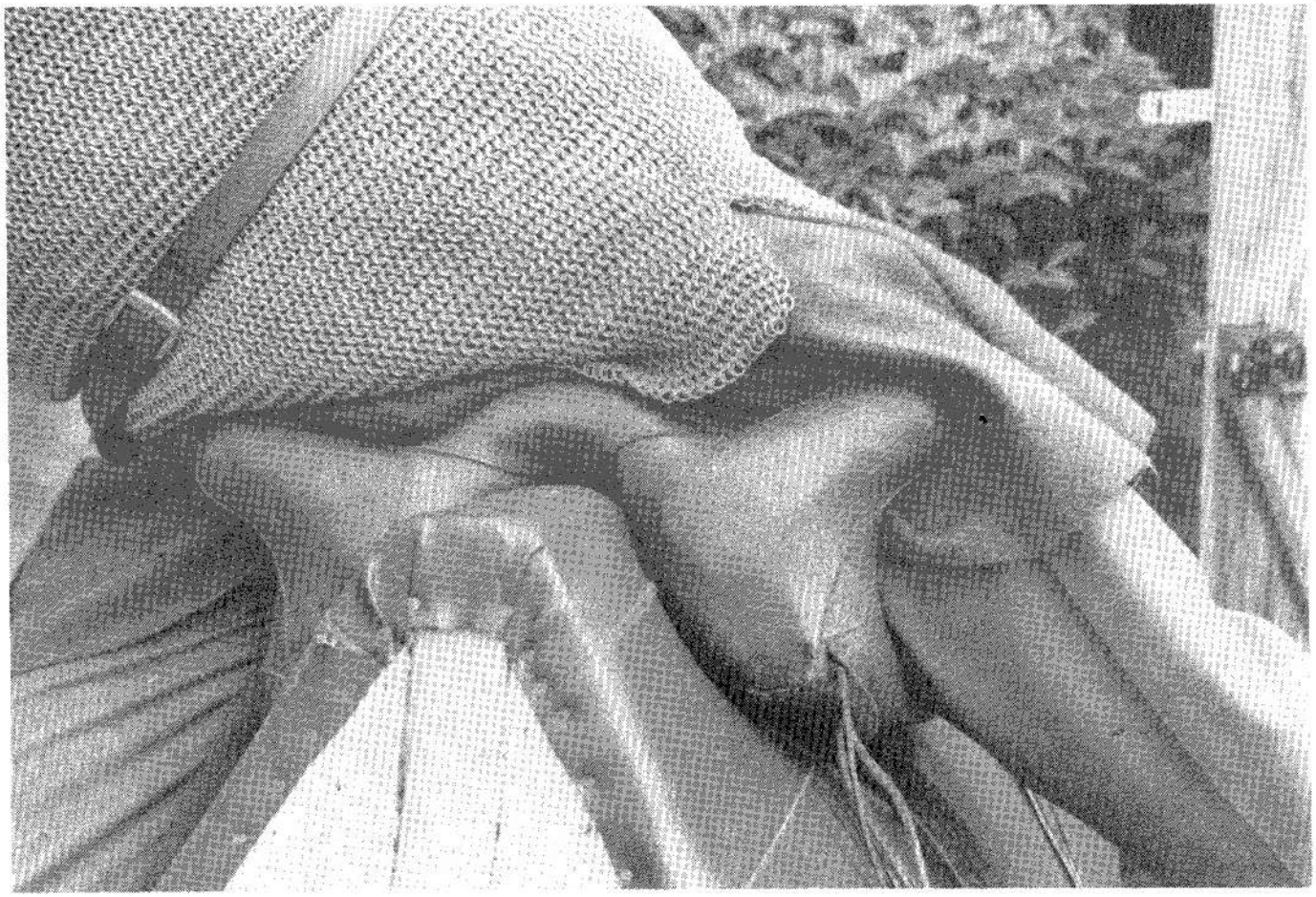
III

The main requirements of a saddle are that it provides the rider with a secure seat and that it transfers the weight of the rider from the spine to the flanks of the horse. The latter is achieved by padding the saddle underneath (see Fig.6) leaving a channel down the middle so that the centre of the tree is raised above the horse's spine and withers. The padding could have been attached either to the tree or to the flaps or it could have been entirely separate. I stuffed the area where the side panels turned under and this seemed to work fairly well.

With the saddle padded and the girth strap attached in the manner described above the saddle was ready to be ridden. The horse was not too happy about the unfamiliar shape but he accepted it without too much trouble. It immediately became clear that the pommels were entirely functional and their efficiency did not seem to be much affected by the size of the rider. When sitting a horse the rider's legs splayed out (Fig.8c, d, e). As a result, if the rider slips backwards his hips become lodged between the back pommels. A slimmer rider just slips a little further back. The front pommels prevent the rider somersaulting out of the saddle backwards. A slight tightening of the knees under the front pommels would be all that was required if the rider felt that he was coming out of the saddle. Similar projections can be found on modern rodeo and stock saddles. They prevent the rider being pulled out of the saddle when roping cattle. A Roman cavalryman must have felt very secure in the knowledge that he would not be pulled out of the saddle when his spear struck home.

At the end of my first ride I encountered the problem of dismounting - without stirrups one could not dismount as one would a bicycle as the pommels were designed to keep one in the saddle. It was suggested that I swing my left leg over the front pommels and slide down the right side in the sitting position and this worked well.

Pl.III: The saddle horns hold the rider firmly in place - even in potentially disastrous situations common in combat.



Pl.III

Pl.IV

The reconstructed saddle was presented to the Third Roman Military Equipment Seminar which was held at Nottingham University in the spring of 1985 where, although it provoked great interest, it also met with considerable opposition. For some time I had been in contact with Mrs Carol van Driel-Murray of the Albert Egges van Giffen Institute of Pre- and Protohisory in Amsterdam who had been studying the Roman leatherwork from the Netherlands and elsewhere for several years and she expressed great interest in the reconstruction and whilst convinced of its essential accuracy had some reservations about the interpretation of the stitching. However, discussion led to the following observations:

Firstly the seam running from the top of the front pommel to the point of the dart (Fig.7a, A,D,E), which is V-shaped on the cut out leather, formed a smooth continuous line on the reconstruction and therefore supported the suggestion (above) that the lower part of the pommel facing was stitched to the leading edge of the side pommel.

Secondly where the leather is doubled up in several places (Fig.2) it seemed to be more than coincidence that two of these places were just above the darts where the leather turns over the front and back of the tree and would therefore be subject to greater wear.

Thirdly the change from neat to coarse stitching 'which occurs on all known examples of saddles receives a functional explanation (van Driel-Murray Pers. comm.) because of the technique of first sewing an inside and 'invisible' seams on the pommel covers which was turned inside out leaving the corners to be attached by a coarser external line of stitching at the base (Fig.1).

Doubts expressed by Mrs van Driel-Murray concerned the stitching of the dart and the side flaps to the pommel facing which was fundamental to the reconstruction. Dr Groenman-van Waateringe considered that the requisite pieces had had a trim stitched over them i.e. a bound hem not a seam - certainly there was no evidence for the side flaps turning under and they could just as easily have hung down the sides as in the previous reconstruction. There was certainly sculptural evidence to support this but if that were the case it would be impossible to calculate the size and shape of the tree.

Pl.IV: The horns on the saddle allowed the rider a remarkable degree of mobility and balance.

Unfortunately even re-examining the Valkenburg/Vechten pieces seemed unlikely to shed further light for the pieces came from several different saddles and therefore the stitching could never be matched.

Before returning to Holland Mrs van Driel-Murray went to Wakefield to examine the recent finds of Roman leatherwork from Castleford in Yorkshire. Among these were the pommel facing and part of the main leather from a saddle but she did not realize at the time that she had in her hands the solution to the whole problem. Later, as she revealed to the Fourth Roman Military Equipment Seminar held at Newcastle University in spring 1986, she was able to restitch the two pieces and found that the stitching holes matched not only down the sides but also along the bottom proving that the side flap was indeed stitched to the bottom of the pommel (Fig.7b). This had been the weakest point of my reconstruction but it was now entirely vindicated.

The Castleford fragments which suffer from extreme wear and tear, have not yet been published. Their interpretation is very difficult and requires a far more detailed account than could be published here. It will be published by Mrs van Driel-Murray as part of the Castleford report. It is sufficient to say here that her evidence lends considerable weight to the case for the leading edge of the side flap being stitched to the bottom of the pommel facing.

V

Although the saddle has been tried out on a horse several times it seemed essential to build a vaulting horse so that it could be tested thoroughly. A wooden horse 14 hands high was constructed and the saddle bolted to it. This was tried out at the Roman cavalry course held at Durham University in April 1986. Dr David Breeze volunteered to vault into the saddle from either side as described by Vegetius. This proved to be much easier than expected as we had anticipated some reticence on the part of the men because of the pommels. Dr Breeze performed the feat about a dozen times and found it easiest with one hand gripping the nearer front pommel and the other in the centre of the saddle (see Plate I). This was later repeated by Mr Clive Constable of the Ermine Street Guard wearing a scale cuirass weighing about 12kg.

Important though these experiments were, far more significant were the experiments carried out with a shield and long slashing sword. The shield was a reconstruction based on the elliptical shield cover from Valkenburg. This shield which was about 1.3m long and somewhat over 65cm wide with a weight of

about 7kg covered the rider from shoulder to ankle and acted as a counter balance to the sword (Plate IV).

The sword was a copy of a spatha found at Rottweil in southern Germany. It was just over a metre long and weighed about 1.5kg. It was first of all established that it could be drawn with the right hand with the scabbard on the right hip which many people had doubted. It immediately became obvious that not only would it be impossible to wield a sword of this size and weight without the saddle pommels, for the momentum would pull the rider off the horse, but with the pommels it was possible for the rider to slash out to the right, with the point of the sword reaching out almost two metres, and to use the left front pommel to pull himself back into the saddle with his left thigh. In fact the pommels were performing almost exactly the same function as stirrups in allowing the rider to regain his position in the saddle. This has serious implications for our whole view of the Roman cavalry. The long accepted view that shock tactics were impossible before the introduction of the stirrup will have to be reconsidered.

I would like to thank Mrs Carol van Driel-Murray for the tremendous help that she has given me both in the construction of the saddle and in preparing this article. I would also like to thank all those who have encouraged me especially Mr Mark Hassall of the Institute of Archaeology and Dr Brian Dobson and Professor John Mann of Durham University.

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FIGURE CAPTIONS

Fig.1: The saddle fragments from Valkenburg and Vechten in the Netherlands, after Dr W. Groenman-van Waateringe.

a: The main piece from Valkenburg which is shown in a reconstructed form in Fig.2.

b & c: Fragments of similar pieces from Vechten.

d: Pommel facings from Valkenburg.

e & f: Pommel facings from Vechten.

Fig.2: Simplified reconstruction of the main Valkenburg piece. The stippled areas are where the leather is double. P. Pommels; X. Crescent shaped holes; PF1. Type 1 pommel facings (see Fig.1,e); PF2. Type 2 pommel facings (see Fig.1,d).

Fig.3: Dr Groenman-van Waateringe's reconstruction of the saddle components.

Fig.4: The rear, L-shaped pommel stiffeners from Rottweil after Planck.

Fig.5: The front pommel stiffeners from Rottweil after Planck.

Fig.6a: The front of the saddle tree. The light stippling shows the shape of the horse at the withers. The dark stippling shows the padding necessary to protect the horse.

b: The back of the saddle tree. The light stippling shows the shape of the horse across the centre of the back. The dark stippling shows the padding needed to raise the saddle above the horse's spine.

Fig.7: The suggested method of stitching the pommel facing to the front pommels of the main Valkenburg leather.

Fig.8,a & b: Side and threequarter front view of the Valkenburg saddle reconstructed complete with girth strap and

attachments for the crupper and breast plate.

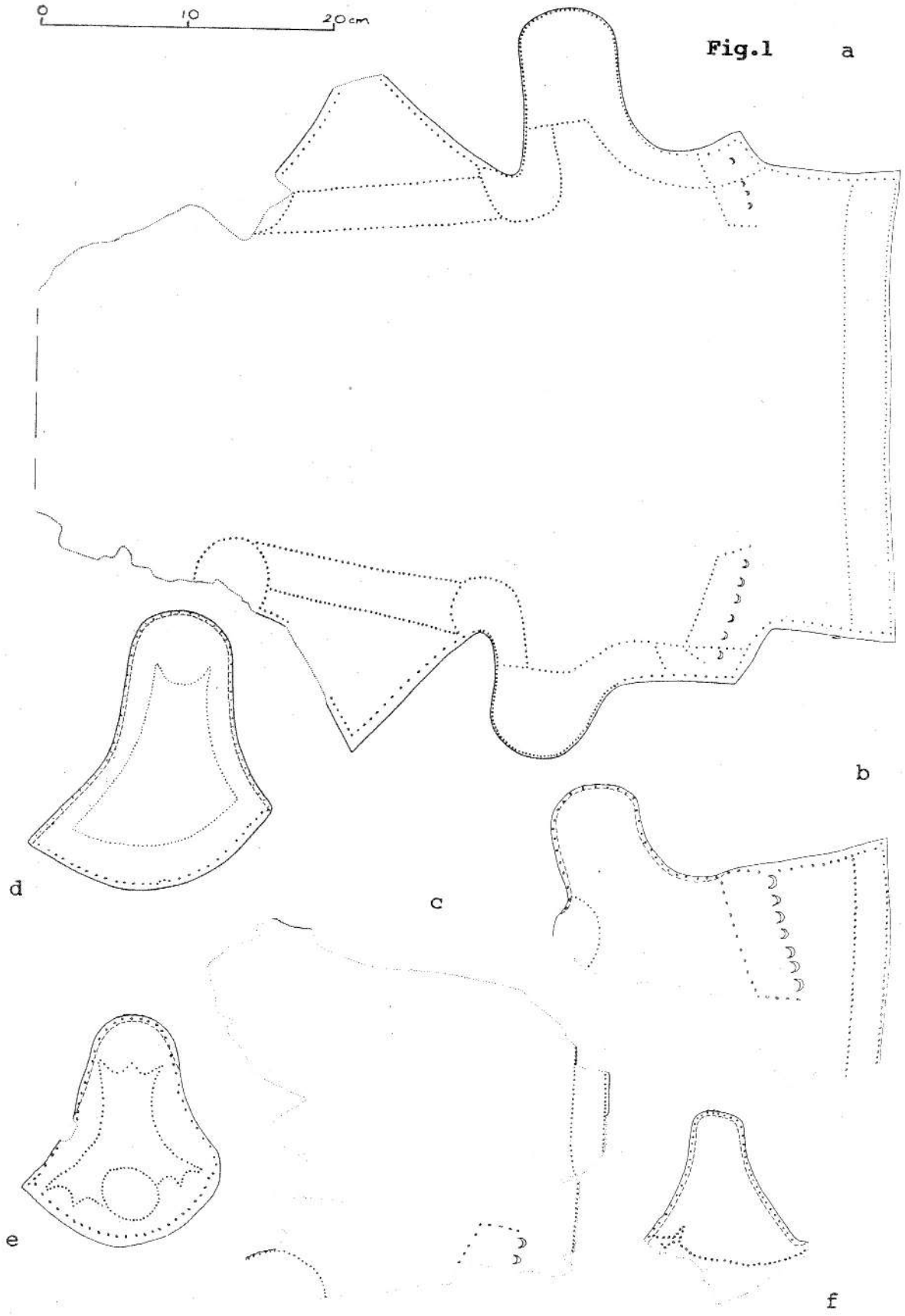
c, d & e: The sitting position from the side, back and top.

f: A fallen horse shown on the Julii monument from St. Remi in southern France. This shows a four pommeled saddle with crupper, breast plate and girth strap all possibly attached to saddle flaps.

g: A detail from the tombstone of Gaius Romanius at Mainz in Germany. It shows a lozenge-shaped saddle with pommels fitting closely to the thighs and hips.

Fig.9,a, b, c & d: Front, underneath, back and top views of the reconstructed saddle without girth strap. The two pieces X,X are totally hypothetical.

e: A possible reconstruction of the girth strap attached to flaps which are stitched to the wood of the tree This would have had to be attached before the leather covering was put over the tree. The breast plate and crupper attachments are also shown stitched to the flaps. This is entirely hypothetical.



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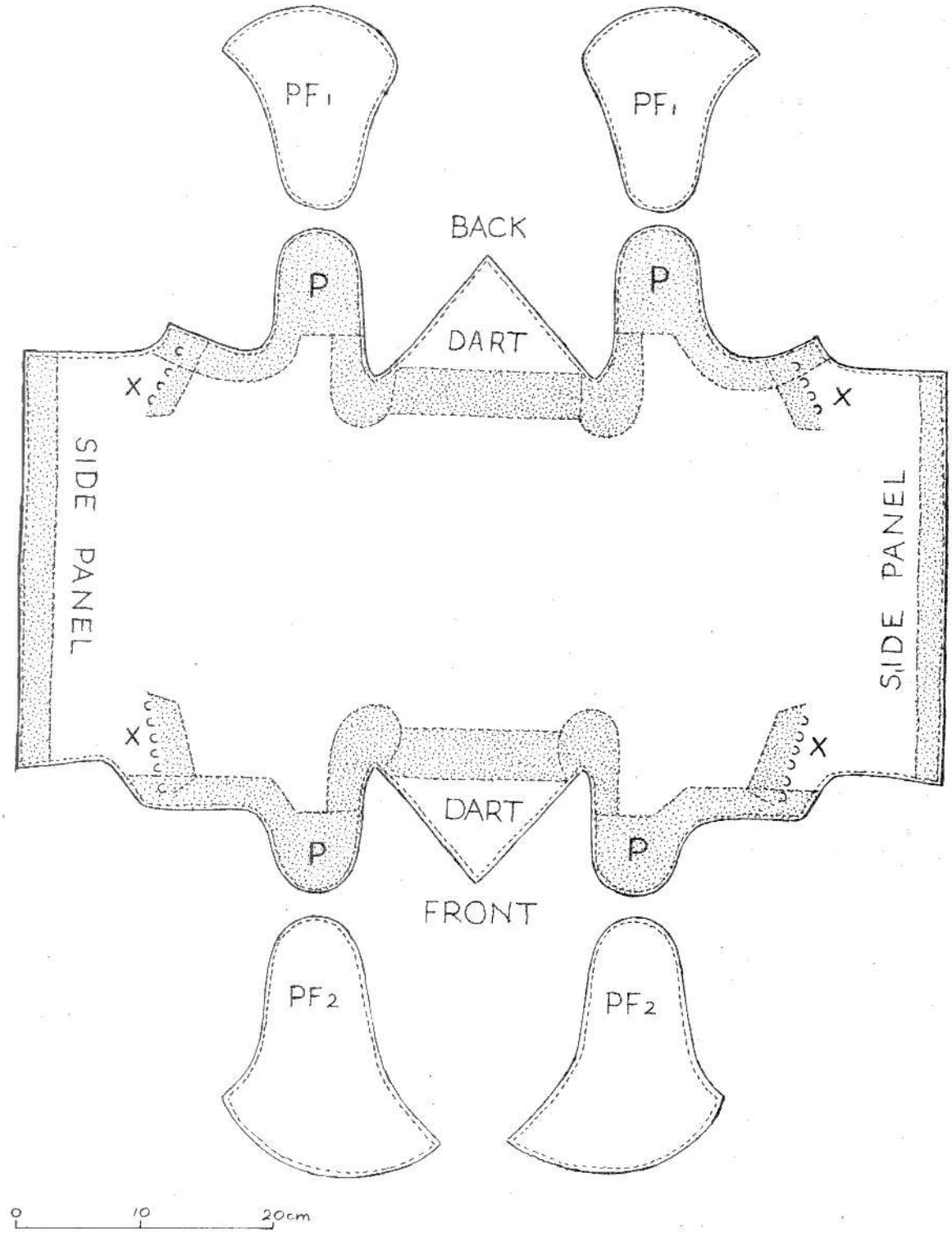
PF1
PF1
BACK
P
P
DART
X
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SIDE PANEL
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0
10
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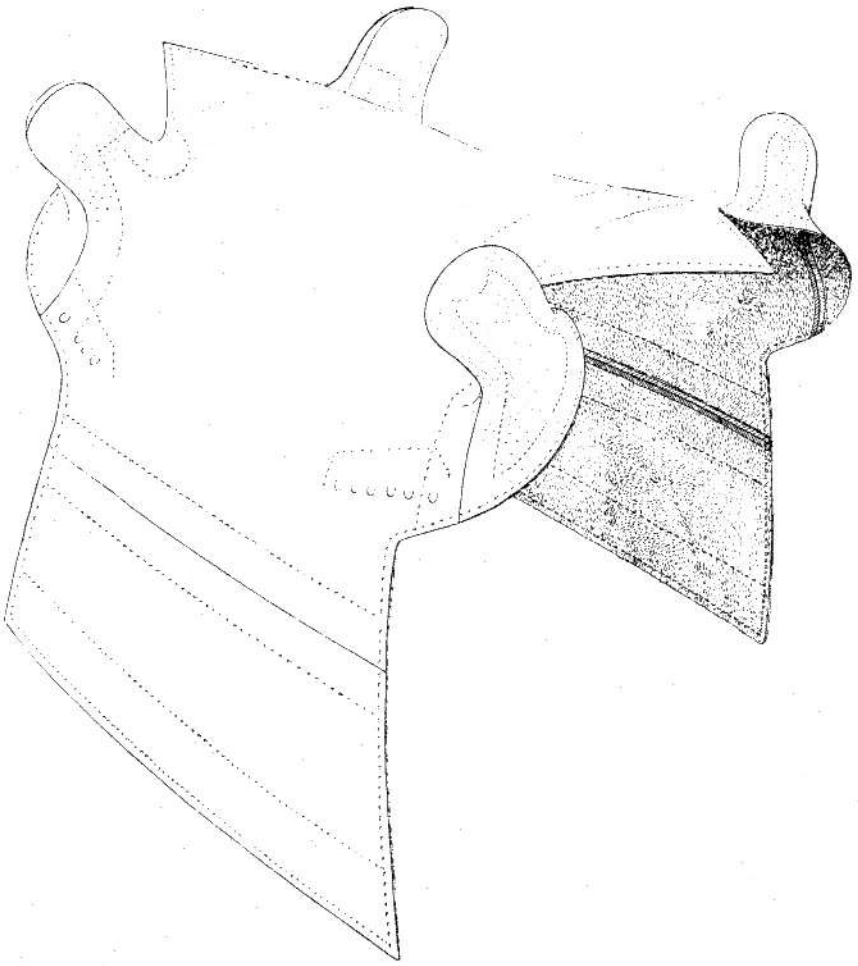
Fig.2



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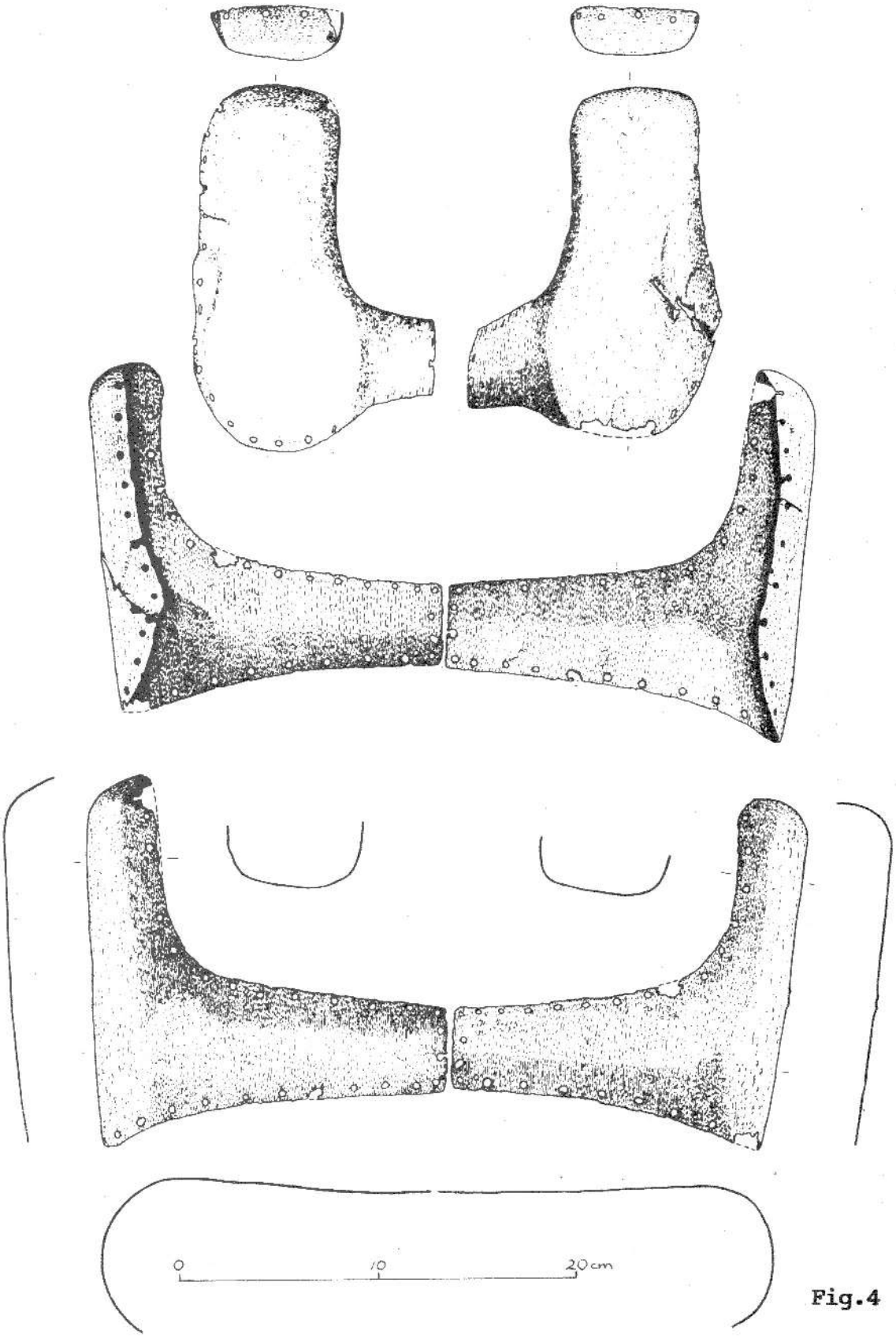

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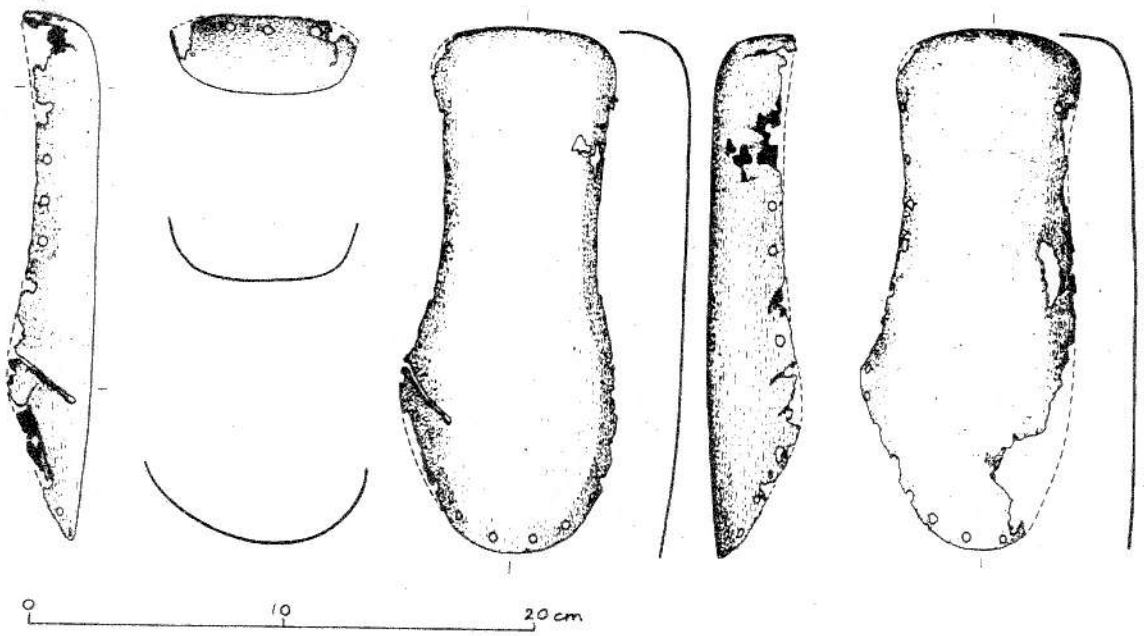

Fig.5

Fig.6

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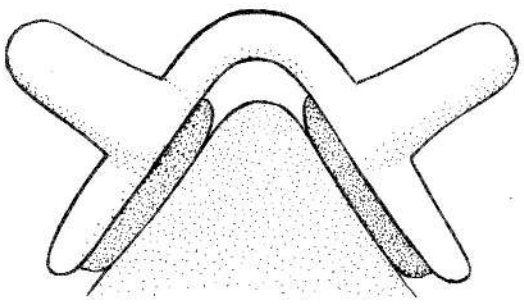

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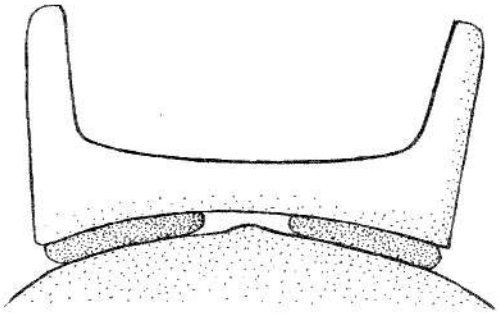

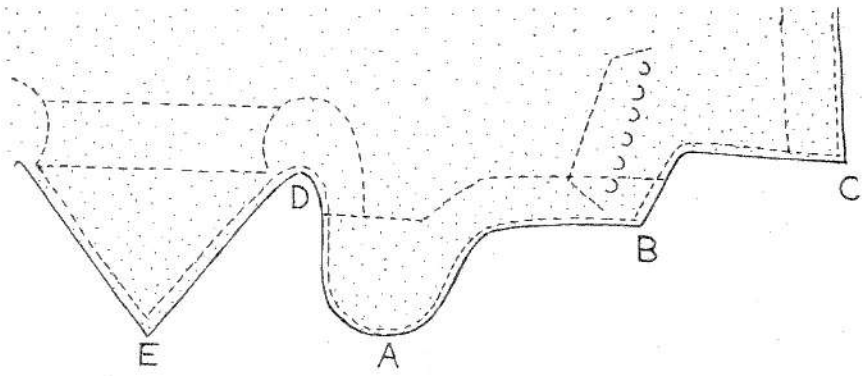

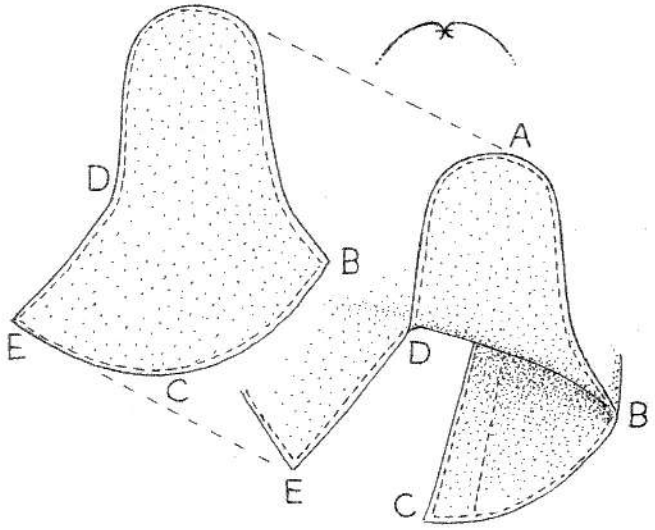

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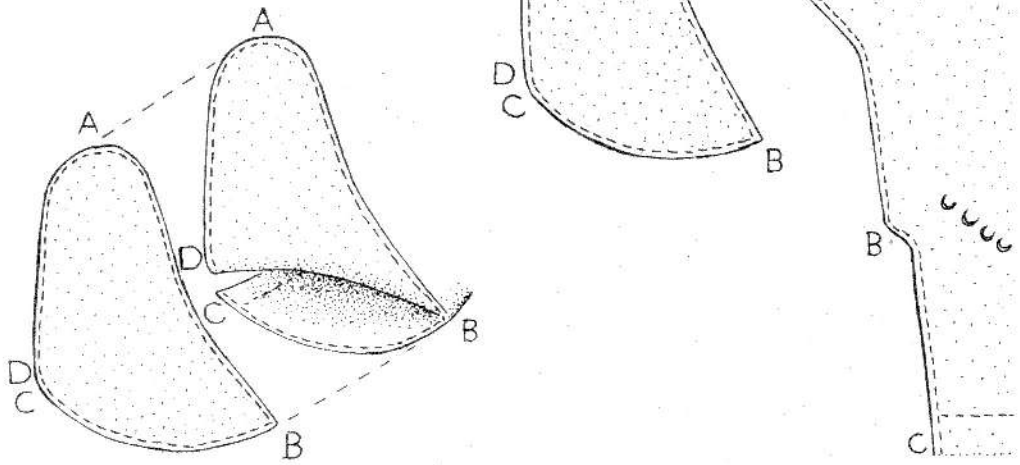

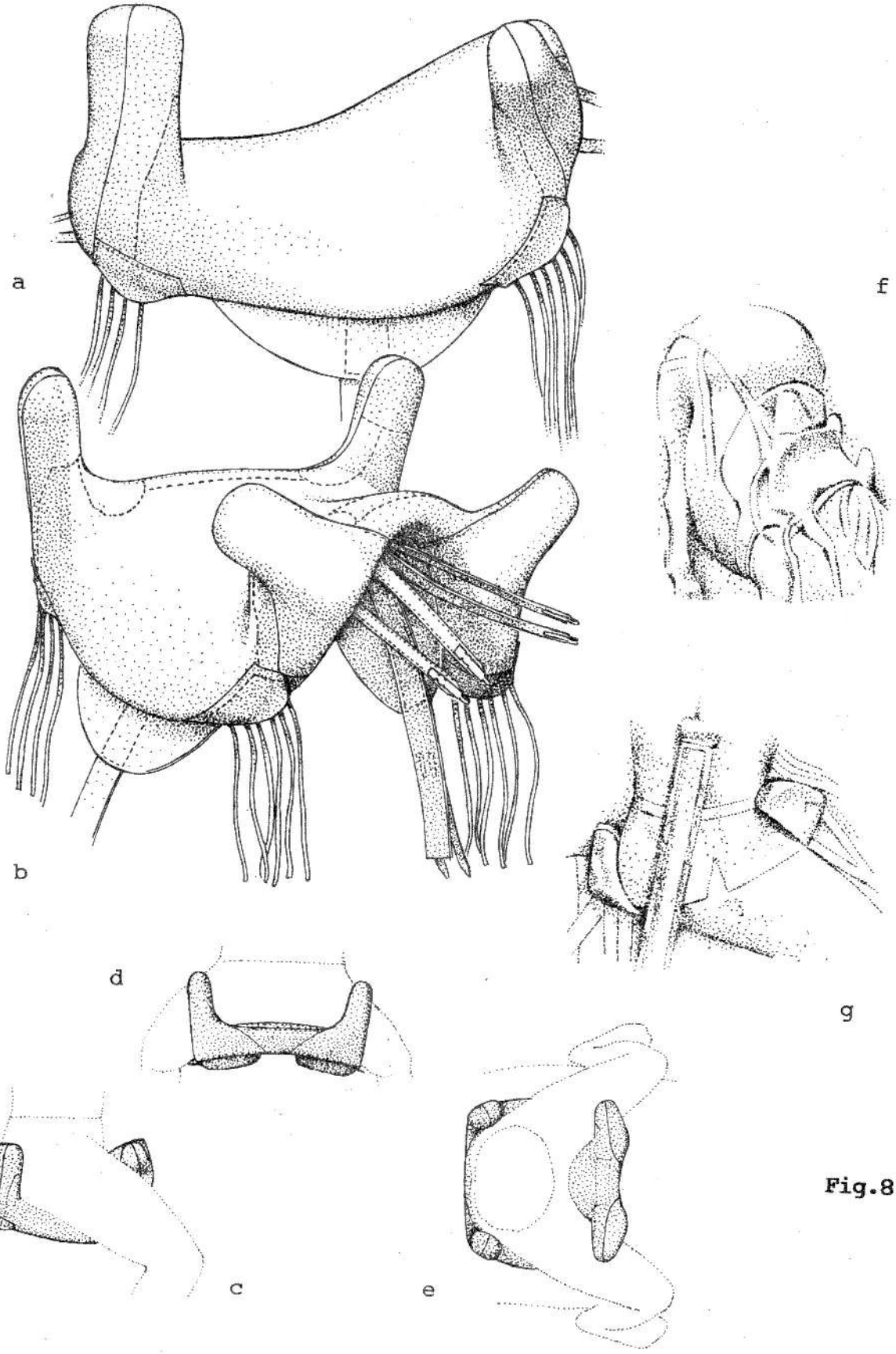

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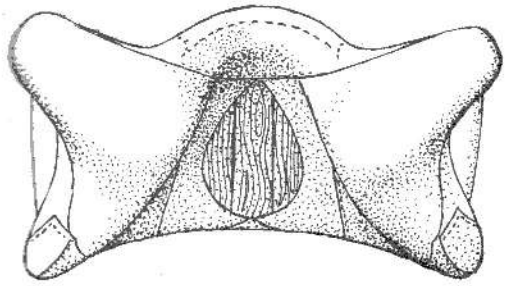

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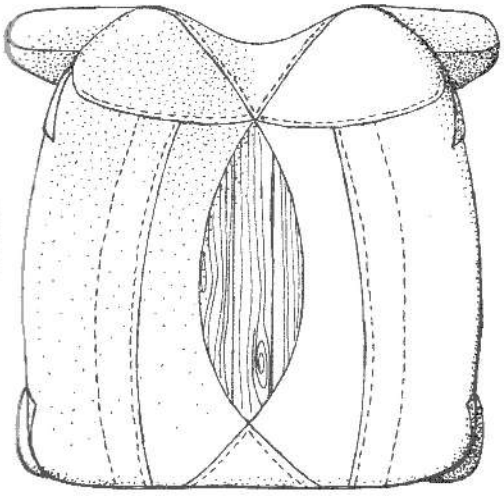

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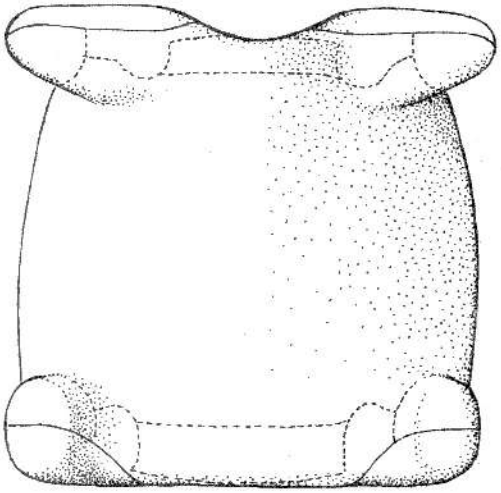

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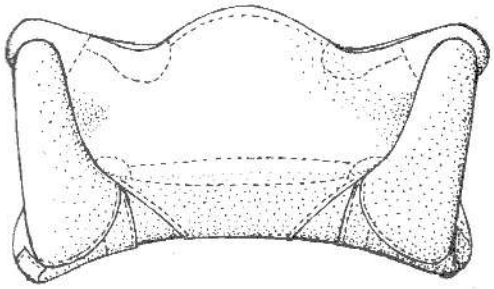

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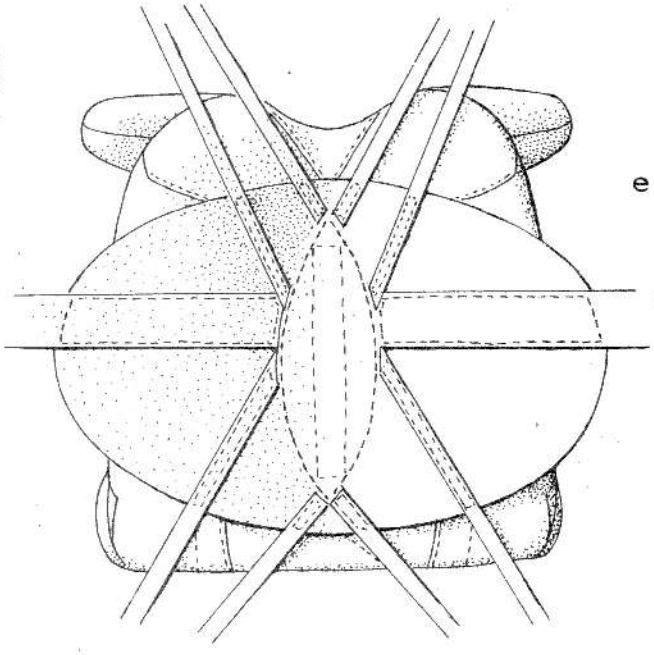

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Fig.9