

THE WOUNDS IN *ILIAD* 13–16*

The wounds inflicted by Homer's warriors fascinate readers, since they are vividly described and often curious or even grotesque. Commentators have struggled to explain some of them since commentaries began: some of the explanations are more curious than the wounds. Not surprisingly, the commentaries have not usually been graced by a high standard of anatomical or, especially, physiological background knowledge, and are often misleading in these respects. When such knowledge is applied, some wounds which have appeared problematic become realistic, but some which have been accepted as straightforward become problematic.

The following observations are a response to the most recent commentary¹ and in particular to the section by R. Janko (Books 13–16)—henceforth J. This is because he clearly likes to think about the events of battle in physical detail (some commentators avoid this) and is energetic, indeed courageous, in trying to say exactly what has happened and how it happened. Simultaneously, I will consider the approach taken on the selected passages particularly by M. M. Willcock² (W.), W. Leaf³ (L.) and occasionally by W. Trollope⁴ (T.) and C. G. Heyne⁵ (H.). Translations within inverted commas 'thus' are from Hammond.⁶

I begin with two principles.

(1) I do not expect every wound described by Homer to be realistically explicable. One should try to come to some physical explanation of events if possible. But miraculous things do happen in the *Iliad* (though less often than in the *Odyssey*); in particular all episodes of wound healing are miraculous. Therefore miraculous wounds should not be a surprise to us.

(2) The fights in the *Iliad* are stylized in at least two ways: first in terms of action described—spear cast, hit, wound, death, would be a simple example⁷—and second in terms of language, determined by the principles of oral transmission, and the demands of metre within that process. These two modes of stylization may not mesh. The result may be an inappropriate use of formula, which may take a special form in this context, namely wound–weapon mismatch, which I will illustrate in due course.

I make one speculation.

(3) An odd or unusual or surprising event, transmitted orally over generations, may become exaggerated or less realistic with time. Once miraculous, its transmission may be assured.⁸

* I am grateful to Philip van der Eijk, John Gardner, Richard Janko, Peter Jones, and Malcolm Willcock for comments, suggestions, and corrections. I thank Noel Dilly for his advice on anatomical points, and for directing me to the work cited in n. 22.

¹ G. S. Kirk (General Editor), *The Iliad: A Commentary* (Cambridge: Books 1–4 G. S. Kirk, 1985; Books 5–8 G. S. Kirk, 1990; Books 13–16 R. Janko, 1992).

² M. M. Willcock, *The Iliad of Homer* (London: Books 1–12, 1978; Books 13–24, 1984). This commentary was of course intended for beginners, not scholars, for which this author has often been grateful.

³ W. Leaf, *The Iliad* (London, 1899).

⁴ W. Trollope, *The Iliad of Homer* (London, 1847).

⁵ C. G. Heyne, *Homeri Ilias* (Oxonii, 1834).

⁶ M. Hammond, *Homer: The Iliad* (Harmondsworth, 1987).

⁷ B. Fenik, *Typical Battle Scenes in the Iliad. Hermes, Einzelschriften* 22 (Wiesbaden, 1968).

⁸ I know of no scholarly consideration of the transmission of miraculous, as opposed to heroic

Most wounds are simple and require no further consideration. For example 'X struck Y on the head above the ear, and he died.' Of the sixty-four wounds described in Books 13–16, only fourteen need further debate.

THE WOUNDS

- (1) *Antilochos kills the unnamed chariot-driver of Asios (13.394–9) and*
 (2) *Idomeneus kills Oinomaos (13.506–11)*

These passages present the same problem and a good example of phrase-clustering (see J. on 13.97–9). The problem is how a spear which pierces the corslet (θώραξ) can cause a wound in the belly (μέση δ' ἐν γαστέρι 398: γαστέρα μέσσην 506).

L. was bothered by this and (in his Appendix B) quotes with considerable reserve Reichel, who believed that θώραξ might refer to armour in general (cf. θωρήσσω) and that θώρακος γύαλον might even signify the hollow of a shield. J., in his note on γύαλον at 15.530, refers to the late fifteenth-century Dendra cuirasse.⁹ This piece of armour notably fails to illuminate Homeric methods of warfare. Its wearer would not have been able to shoot an arrow from a bow or throw a spear; could have walked, but not run; and if he fell over would have risen with extreme difficulty or not at all.¹⁰ In desperation, he has been thought to be a chariot driver, the only plausible job description for a warrior of such limited mobility.

In standard surface anatomy, the anterior surface of the abdomen is divided by two vertical and two horizontal planes into nine areas (Figure 1). The anatomical sense of γαστήρ, in classical and earlier Greek, is the (frequently) convex outer surface of the abdomen and what it contains, or paunch (the hollow viscus known to us as the stomach and in standard, if old-fashioned, anatomy as the ventriculus). It may also refer to the womb.¹¹ Any armour designed to cover the thorax must practically cover the epigastrium and probably also the upper part of the umbilical area, and the Dendra cuirasse would certainly have done so (see Figure 7 in Vanderpool [n. 9] and Figure 1 here). A wound through the lower part of the θώραξ could reasonably be

but realistic events, but I am not confident that I have searched in appropriate places. R. Wiseman and P. Lamont collected forty-eight eye-witness accounts of the Indian rope trick, and searched for a correlation between the recorded impression of the trick, and the time lapsed between the event and the recording of it. They found that accounts became more elaborate with the passing of time. This may have some relevance ('Unravelling the Indian rope trick', *Nature* 383 [1996], 212–13).

⁹ E. Vanderpool. 'News letter from Greece. Dendra: Mycenaean armour', *AJA* 67 (1963), 280–1, plates 62–3.

¹⁰ D. E. H. Wardle, 'Does reconstruction help? A Mycenaean dress and the Dendra suit of armour', in E. B. French and K. A. Wardle (edd.), *Problems in Greek Prehistory*. Papers presented at the Centenary Conference of the British School of Archaeology at Athens, Manchester, April 1986 (Bristol, 1988), 469–76.

¹¹ LSJ II. In Iliadic fighting, Homer is precise. If the wound is μέση δ' ἐν γαστέρι it involves the θώραξ on five of six occurrences. If it is νειαίρη δ' ἐν γαστρί, at the base of the belly, it involves the ζωστήρ, on three of four occasions. If, uniquely, it is παρ' ὀμφαλόν no armour is cited. Thus Homer sees the θώραξ as protecting the upper belly and the ζωστήρ the lower belly below the navel, the hypogastrium of Figure 1. Only once in the *Iliad* does γαστήρ refer to hunger (19.225), appropriately in a speech by Odysseus, for in the *Odyssey* the γαστήρ is primarily the seat of hunger and greed: οὐλομένην, ἀναλτος, στυγερή (thirteen occurrences). Three times it refers to the actual viscus, but to the paunches of goats, prepared, ironically, for feasting on, and once to the shaggy belly of the ram to which Odysseus clings in his escape from Polyphemos.

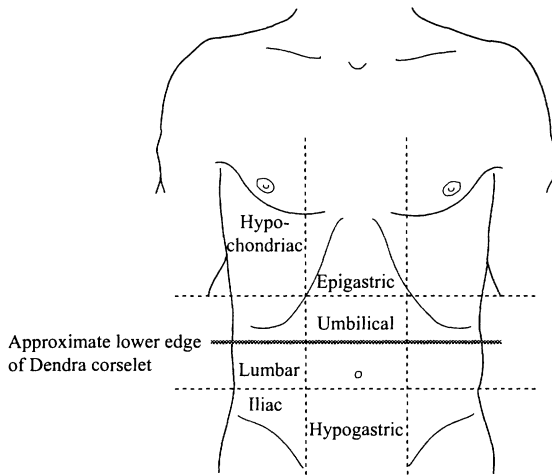


FIGURE 1. Anatomical surface areas defined on the anterior abdomen and thorax, after *Gray's Anatomy* (London, 1949), Fig. 1170. (The liver lies in the right hypochondrium, the stomach in the left, extending into the epigastrium.)

described as piercing the 'middle of the belly' though the 'middle of the trunk' would be more accurate. In short, there is no problem here.¹²

There certainly is a problem in 507–8, which is not picked up by any commentary, in *διὰ δ' ἔντερα χαλκός / ἤφυσ'*. It is literally translated by Hammond as 'the bronze let his bowels gush out'. This assumes that *ἀφύσσω*, which means draw off *fluid*, is used metaphorically. But Idomeneus has made the wound with a throwing spear (*βάλλε*: Aristarchus first noticed that *βάλλω* in Homer means strike with a missile, such as throwing spear or arrow, whereas striking at close quarters, with sword or thrusting spear, is usually *οὐτάω* or *νύσσω*). The throwing spear has a blade perhaps 3 or 4 cm wide. It has gone through the bronze corslet, then pierced the anterior abdominal wall, and has made a hole of so large a size that bowels (in this case most likely small bowel, which is both mobile and anterior) *gush* out around the spear which has not even been withdrawn (not until 510) and is plugging the wound. Bluntly, this is not believable. There are two possibilities. First, Homer has imagined a wound which is inappropriate to the weapon, which is what I mean by wound–weapon mismatch. It takes a slashing or tearing wound of the abdomen to create a hole large enough for guts to gush out of—a sword wound for example.¹³ A spear thrust which has been slowed up by the

¹² An alternative possibility is that the corslet does not protect against the spear because the spear hits the belly below its lower border. *ἀρκεύω* is found eight times in the *Iliad*, twice in the *Odyssey*. On the four occasions (other than the pair considered here) where the protection of armour against a weapon is involved (*Il.* 13.440, 15.529, 15.534, 20.289) the meaning is that the armour is struck, but does not withstand the blow. Thus in 13.440, the bronze *χιτών* is broken by the spear. The alternative is then unlikely.

¹³ The standard use of *ἀφύσσω* refers to the transfer of wine from wineskin to jar, from jar to mixing bowl, or from bowl to cup (five out of nine in the *Iliad*, seven out of ten in the *Odyssey*). It clearly means draw off with controlled flow, in the sense of 'pour', hardly 'gush', certainly not 'spurt'. Twice in the *Odyssey* there is a parallel use in 'drawing water'. The other five occurrences are metaphorical. In *Il.* 1.171 it means 'draw full draughts of wealth'. In *Od.* 7.286 Odysseus 'poured leaves over himself' to keep warm when sleeping rough, striking onomatopoeia. The final

corslet cannot do this. On the other hand and second, if any part of the gut (bowel) is pierced, gut contents may leak out.¹⁴ If ἔντερα can mean bowel content, which is fluid and would better fit ἀφύσσω, rather than bowel, we perhaps have an explanation—but even then it would not ‘pour out’. I prefer the first hypothesis.

(3) *Idomeneus stabs Alkathoos with a thrusting spear (13.428–44)*

The spear pierces the bronze corslet, sticks ἐν κραδίῃ which οὐράχιον πελέμιζεν ἔγχεος (‘made the spear quiver right to its butt’) ‘and then monstrous Ares took away its force’. This is thought fantastical by commentators. ‘An imaginative variation of the more realistic description of the spear still quivering after it has struck into the ground’ (W.). ‘A piece of exaggeration which looks more like the work of an interpolator than of a genuine epic poet (L.). ‘Surely Alkathoos’ terrifying paralysis . . . has its equal and opposite reaction, obeying some *supernatural law of physics*, in the spear’s bizarre motion’ (J., my italics). In fact the pathophysiology is perfectly straightforward. The heart is a powerful pump. It expels blood from the main pumping chamber (left ventricle) into a conduit which passes first upwards but is then slung backwards over the bifurcating main pulmonary artery and down through the thorax to the abdomen. This is why (I guess) this vessel is called by the latinized version, aorta, of the Greek word for sword-belt. Impressive acceleration is imparted to the red blood cells as they take the sharp aortic bend at about 1–2 g (about 3–4 g in dogs).¹⁵ The left ventricle as it pumps recoils backwards like a cannon, which is why the cardiac impulse felt on the left side of the chest by the hand of the physician moves outwards at a time when the heart is expelling its contents and getting smaller. The heart is easily capable of moving a spear blade which is either alongside or making a shallow incision in the outer layers of cardiac muscle. Figure 2 shows a photograph of the torso of a young man with a large knife sticking through the anterior chest wall—the blade penetrated back as far as the spine.¹⁶ ‘The knife moved with the cardiac cycle . . . (and) transfixes the pericardium and lacerated but did not penetrate the inferior surface of the heart.’ The patient left hospital after four days.

Suppose a spear made a wound in a similar position, that the spear penetrated 4 inches (10 cm) and that the spear was 5 feet (150 cm) long. If the heart were to move the spear tip only 2 mm, and the fulcrum of movement were at the chest wall, the butt end would move $(140/10) \times 2 = 28$ mm (over an inch) with each heart beat, and since the victim is supine and the spear vertical almost no work needs to be done against gravity. It was a striking, indeed fantastic spectacle, until bleeding into the pericardial

three refer, as here, to the ‘bronze spear drawing off the guts’. Since the guts should ‘pour out’, it is far more appropriate to a slashing wound with a sword. In a notorious wound at 20.470 we find an abdominal gash through which the liver slips out—and the wound is made by a φάσανον. At 4.526 χύντο χαμαὶ χολάδες—but the wound is made by a spear.

¹⁴ In a Bronze Age assassination in a book by a different author, we read of the death of Eglon king of Moab, when ‘Ehud put forth his left hand and took the dagger from his right thigh and thrust it into his belly; and the haft also went in after the blade; and the fat closed upon the blade, so that he could not draw the blade out of the belly; and the dirt came out’ (Judges 3, Authorized Version). But not the intestines.

¹⁵ E. D. Bennett et al., ‘Maximum acceleration of blood from the left ventricle in patients with ischaemic heart disease’, *Clinical Science and Molecular Medicine* 46 (1974), 49–59.

¹⁶ S. Westaby and N. Brayley, ‘Thoracic trauma’, in D. Skinner, P. Driscoll, and R. Earlam (edd.), *ABC of Major Trauma* (London, 1991), p. 14.

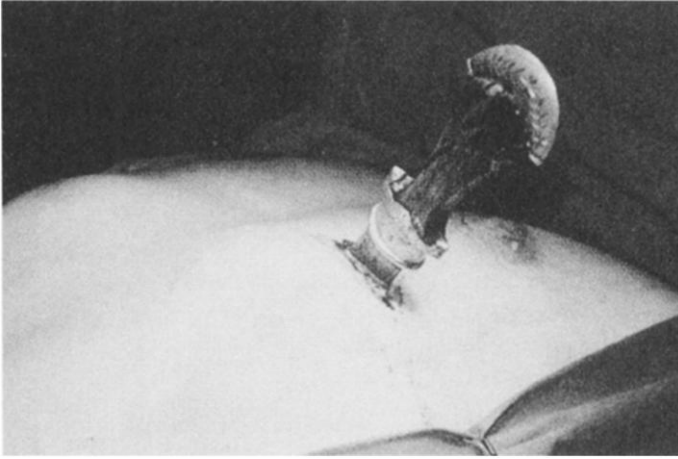


FIGURE 2. The torso of a young man with a knife wound in the left side of his chest. His head is to the right. The left nipple can be seen. The knife lies adjacent to the heart within the thorax. Reproduced with permission of BMJ Publishing Group (see n. 16).

sac which surrounds the heart, or an abnormal heart rhythm caused by the irritation of the blade in the heart muscle, caused the heart to stop beating—and then ‘monstrous Ares took away its force’. Rarely seen, but once seen, never forgotten—and appropriately transmitted in Epic. This is the best example of a wound thought to be unrealistic, but in fact quite explicable. A commentator from an earlier generation, H., apparently took it as matter-of-fact—‘*Cor eius palpitans tremefaciebat etiam ipsam inferiorem hastae cuspidam*’ (quoted by T. ad loc.), but then adds ‘*Quod an vere narratum sit, quaeri potest*’. J. notes the personification, or better animism, of the spear, whose μένος is removed by Ares, and in a sense the μένος does belong to the spear, but it is transferred from the κραδίη of Alkathoos.

Fenik¹⁷ feels that this is ‘clearly a perverse variation of 16.612–13 and 17.528 where the spear quivers when it has stuck in the ground’. Personal (and rather unscientific) experimentation with West African throwing spears suggests that the shaft would have to be inconveniently flexible for the vibration to last more than a second or so. For vibration to occur, the spear needs to be stuck in something rigid—a tree perhaps or a wall. Anything with ‘give’, like earth, will tend to damp out vibration immediately or rapidly. ‘This is . . . a case where everybody would probably agree which is the original motif and which the variation’, says Fenik. I find myself therefore in a small minority here.

(4) *Antilochos stabs Thoon from behind ‘cutting right through the great vein that runs all the way up the back to reach the neck’ (13.545–8)*

There is no such vein. As W. points out, the effort of the scholiasts, supported by Aristotle and noted by one modern surgeon,¹⁸ to identify it with the main artery

¹⁷ Fenik (n. 7), 133.

¹⁸ A. R. Thompson, ‘Homer as a surgical anatomist’, *Proceedings of the Royal Society of Medicine* 45 (1952), 765–7.



FIGURE 3. χεῖρε . . . πετάσσας after a spinal cord injury? After Bailey and Love, Fig. 1326. Reproduced with permission of Lippincott-Raven Publishers (see n. 19).

(aorta, see above) or vena cava (the largest vein, which accompanies the aorta through the lower part of the thorax and upper part of the abdomen) are futile, since they are both immediately in front of the spine and protected thereby from a stab wound from behind. The only large vein in the neck, which T. favours, following H., is the internal jugular which runs rather superficially and anteriorly, emerging from behind the medial end of the collar bone and proceeding in a line towards the lobe of the ear. A stab wound through it would cause serious but not torrential bleeding—not a spectacular result. And why φλέβα πάσαν ἔκερσεν? L. notes that Hippocrates held the view that there were four pairs of large veins, of which the first started from the neck and ran down *both* sides of the spine down to the loins. None of this is true. J. agrees, saying only that it reflects ancient belief. φλέψ is *hapax* in Homer, and J. suggests that it is the spinal cord which is intended, noting that at 20.482 the spinal column ‘spurts marrow’—μυελὸς . . . ἔκπαλθ’—when a head is cut off, but this just raises further translation problems. There is some doubt whether bone marrow or again the spinal cord is meant. Bone marrow is a glutinous substance contained within spongy bone. The spinal cord is a solid structure surrounded by scanty cerebrospinal fluid under no significant pressure. Neither can spurt.

Thoon lands on his back. J. notes that Aristarchus says that he fell towards the blow because his νεύρον (? spinal cord) no longer supported him. (νεύρον becomes a ‘tendon’ later on.) An outdated but modern surgical text¹⁹ illustrates the posture which results from a spinal cord injury at the level of the fifth cervical segment, with arms held in the surrender position (Figure 3), which is tempting in view of ἄμφω χεῖρε φίλοις ἐτάροισι πετάσσας, but the latest edition of the same text no longer contains the diagram. The relevant pathophysiology has changed.²⁰ Moreover, similar pathetic gestures are seen following different injuries (4.522, 14.495, 21.115)

This difficult wound is made more problematic by Homer’s rare omission to specify the assault weapon. (This happens only four times in seventy-six hits in Books 13–16.) Thus we do not know whether a stabbing (sword or spear) or perhaps slashing (sword) wound is involved.

¹⁹ H. Bailey and McN. Love, *A Short Practice of Surgery*, 11th edn (London, 1959), fig. 1326, p. 1009.

²⁰ The figure is omitted in the most recent edition because the results of magnetic resonance scans in similar patients do not bear out the original hypothesis. Professor B. A. Bell, St George’s Hospital Medical School, personal communication.

Friedrich²¹ thought that the vein was simply a Homeric fantasy, and Friedrich is probably right.

(5) *Meriones hits Adamas with a cast spear in the lower abdomen (13.567–75), between the ὀμφαλός and the αἰδοῖα*

This is perhaps straightforward. The wound is central in the lower abdomen (hypo-gastric, Figure 1, not—*pace* J.—a groin wound). W. thinks that Adamas was impaled on the spear and σπόμενος περὶ δουρί means ‘collapsed forward on it’. J. interprets it as Adamas following the spear, stuck in his belly, as Meriones tugs it, echoing μετασπόμενος in 567. J.’s version is indubitably nastier, and, since Meriones tends to produce aesthetically unpleasant wounds, more likely. τυπεῖς in 573 is odd since the wound was with a thrown spear (βάλε 567). J. suggests that the verb of striking has been attracted from the simile of the bull sacrifice, where τύπτω would be appropriate. The dragging of the bull to sacrifice also supports J.’s version.

(6) *Menelaos hits Peisander just above the nose on the forehead with a sword and fractures his skull. The eyes fall out of their sockets to the ground (13.605–19)*

(7) *Patroklos hits Kebriones on the forehead with a jagged rock, and shatters both eye-sockets so that the eyeballs fall out onto the ground (16.732–43)*

Homer apparently believes that the eyeballs are retained in the head by the bony sockets alone. When the surrounding bone is shattered, the eyeballs drop out. Did he really think this, or is there some technical literary or allegorical explanation?

Each eye is attached to the socket by six separate strap-shaped muscles arranged peripherally and to the brain by the optic nerve. It is quite impossible for all these structures to be severed bilaterally and simultaneously by a single blow, either of a sword or of a thrown rock, as commentators have always recognized. Before falling back on allegorical or other purely literary interpretations, it is worth considering how the eyeball may really be displaced by trauma.

Luxation of the eyeball is a condition where there is forward displacement of the eye so that the eyelids close behind it. It is a rare sequel to major trauma to the bony socket, but even more rarely spontaneous luxation after a minor blow on the forehead does occur²² as shown in Figure 4. Major trauma to the side of the face, not the forehead, may collapse the socket and push the eye out and forward, but of course unilaterally.²³ (So-called blow-out fractures of the socket occur from a blow from in front, but the eyeball goes inwards, not outwards.) Thus trauma, even when trivial, can displace the eye, and this would be a notable and transmissible event, once observed.

More relevant perhaps is Homer’s odd use of πίπτω in this context. Referring to humans Homer uses the word to mean ‘fall dead’, whether unqualified (sixty-six times) or qualified by locative expressions such as χαμαί, ἔραζε, or ἐν κονίῃσι (twelve times). When referring to inanimate things falling πίπτω is thus qualified on sixteen of twenty-seven occasions, always by words meaning ‘to the ground’.²⁴

²¹ W.-H. Friedrich, *Verwundung und Tod in der Ilias* (Gottingen, 1956), 43.

²² H. N. Chhabra and A. M. S. Kawuma, ‘Luxation of the eyeball’, *British Journal of Ophthalmology* 70 (1986), 150–1.

²³ G. Dimitroulis and B. S. Avery, *Maxillofacial Injuries: A Synopsis of Basic Principles, Diagnosis and Management* (Oxford, 1994), 55.

²⁴ Figures based on Perseus 2.0. There are only nineteen instances of the use of πίπτω referring to persons, but not implying death. Of these, eleven form a special case ‘falling into



FIGURE 4. Photograph of patient with one eye pushed forward, i.e. luxation of the eyeball. The left eye cannot be closed because the eyelids are behind the eyeball. Reproduced with permission of BMJ Publishing Group (see n. 22).

Thus a permissible mechanism exists whereby an odd and therefore memorable wound has been exaggerated in transmission and then driven by formulaic pressure (the standard use of *πίπτω*) to a curious final form. It then becomes magical or miraculous and is transmissible in its own right.²⁵ Having constructed this hypothesis, I find it only marginally convincing, but worth mentioning. Moreover if it is accepted that eyes may be to some extent displaced following trauma, then Homer may be imagining a heroic trauma which makes them fall out to the ground—a melodramatic exaggeration, but not necessarily ludicrous or miraculous.²⁶

There is a more literary approach. J. says that ‘Peisandros’ misconception’ (that his hit on Menelaos’ shield will bring him victory) makes it almost comically apt that his eyeballs pop out’ and finds this passage ‘poetically just’ as opposed to the parallel 16.741ff and to 14.493ff where a spear pushes (*ῥέω*) a single eyeball out of the socket (though the latter is perfectly realistic). At 16.733–50 he notes that while ‘the eyes fall out and land by his feet, *he* falls out and lands on his head. Complaints over his eyes’ absurd trajectory, especially when conjoined with his own, miss the wit . . .’

Poetic explanations are outside the scope of this paper, which is concerned with pathophysiology, and the above brief quotations do not do justice to J.’s argument, which should be read in full, but I certainly find a certain piquancy in an event where the personified eyeballs drop dead on the ground, which is in one sense what Homer is saying.

(8) *Meriones hits the retreating Harpalion with an arrow in the buttock (13.650–8)*

The arrow passes through the pelvis, transfixing the bladder, and comes out under the pubic arch, centrally in front. Meriones inflicts exactly the same wound in 5.66–7, but with a throwing spear (*βεβλήκει*). The course of the weapon was worked out by

ships’, at least some of which are probably *ἐμπίπτω* with tmesis. Three cases refer to gods, who cannot die, two are in simile, and three in metaphor.

²⁵ See under (3) on p. 345 above.

²⁶ I am indebted to Professor David West for this suggestion.

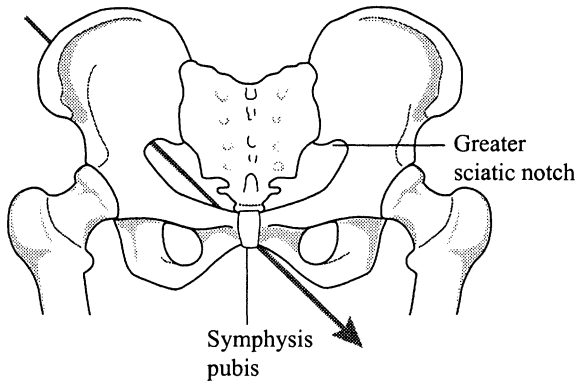


FIGURE 5. Arrow path for 13.650–658 (from Gray, Fig. 436; see Fig. 1).

Thompson,²⁷ who pointed out that it must pass through the greater sciatic notch in the pelvis (Figure 5), through the base of the bladder, and out under the symphysis pubis. This description replaced the theory of Malgaigne (1842) translated by Grmek²⁸ that it went ‘from back to front and from below to above . . . through the gluteus maximus, the ischio-pubic foramen, the bladder and the pubic arch’, which is wrong for three reasons. The foramen and the arch described lie almost in the same plane, so an arrow cannot go through both. The base of the bladder lies just behind the symphysis pubis, just above the pubic arch, so any weapon travelling through the pubic arch will miss the bladder unless it is angled sharply downward. Third, it would be somewhat difficult to shoot an arrow which hit the buttock and then angled upward, unless, I suppose, the recipient were standing on a hill.

Kirk on 5.66–7 believes that ‘any accuracy in the description is surely due to common sense appreciation of the rough relation between buttock, spine and bladder rather than to any special technical knowledge’ but, *pace* common sense,²⁹ the spine does not come into it. What is remarkable is the trajectory of the weapon. It is natural (common sense?) to think that the course from buttock through bladder and out at the front would be closer to horizontal than vertical, sloping downwards, appropriate for a targeted arrow or throwing spear. In fact when it is tested in an assembled skeleton it is much closer to vertical (about 25° off—Figure 6). The sharply downward trajectory of this wound may be suggested by the three prepositions (*κατά*, *κατά*, *ὑπό*) which govern buttock, bladder, and bone, respectively.

In real war, massed archers fire arrows high in the air to descend almost vertically on a massed enemy, but we are not dealing with Agincourt here. Arrow shots in Homer are targeted and therefore have a trajectory nearer to horizontal as observation of any modern archery contest will show. Teucer shoots from a kneeling position suitable for a low trajectory. As for the possibility that the wound could be inflicted with a throwing spear, Meriones is at close quarters, and again the trajectory of the thrown spear should be nearly flat.

²⁷ Thompson (n. 18). W. has read this reference. Other commentators mention it but seem not to have read it, preferring to quote W. as having done so.

²⁸ M. D. Grmek, *Diseases in the Ancient Greek World*, trans. M. Muellner and L. Muellner (Baltimore and London, 1989), 32.

²⁹ Common sense tells us that the sun goes round the earth, which is flat. It routinely misleads us in science.

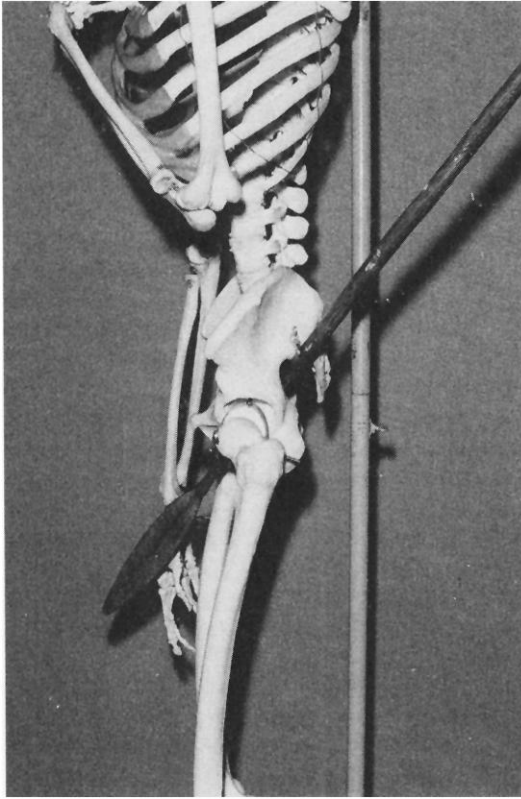


FIGURE 6. Path of spear in articulated skeleton.

In fact both wounds are appropriate for a right-handed downward stabbing blow on a fleeing enemy. If the victim's trunk were tipped forward in flight, the weapon trajectory would be even closer to vertical. In both cases, therefore, the victim is in flight, the wounds are entirely realistic, but the weapon is different and in both cases (arrow and throwing spear) mismatched to the wound.

Homer did not need to know about the greater sciatic notch to describe these wounds. He simply needed to see or imagine or hear about a spear passing from buttock through and out under the pubic arch, in combination with a bladder wound. Bladder wounds are patently and simply signified by the fact that the subject passes blood in or instead of urine. (This is not 'common sense', but would be the result of two observations and one deduction.)

(9) Ajax hits Hector on the chest with a thrown rock. Hector collapses, is carried away by his friends and recovers (14.409–20, 436–9; 15.10–11, 239–42)

This celebrated scene has more problems than those already raised by commentators.

(i) *Where is Hector hit?* On the chest (στῆθος) near the neck (ἀγχόθι δειρῆς). Is this anterior? Presumably, since it goes ὑπὲρ ἄντυγος, above the rim of his shield. If so it must be below the level of the collarbone, which if involved would likely have been

broken and rendered the ipsilateral arm useless. ‘Close by the neck’ is an odd way to describe this site. Or is it posterior? Hector is ἀπιών when he is hit, and although this normally implies that the victim is backing away, it need not do so.³⁰ Hector would prudently have slung his shield over his back to protect it if he had turned away. Then he might have been hit over the upper edge of the shoulder-blade, which is still the chest in modern parlance. This proves to be a poor idea. LSJ gives for στήθος breast or the front part of the thorax, and of the thirteen other occurrences of στήθος in Books 13–16, eight indubitably mean the front of the chest, since they refer to wounds in an oncoming fighter, or occurring when the victim is ὑπτιος; or in one case the wound is located παρὰ μαζόν. In the other five the meaning is ambiguous in this respect but there is no suggestion that the back of the chest is involved. The clearest definition is at 8.325 ὅθι κληῖς ἀποέργει αὐχένα τε στήθος τε. Thus Hector is retreating by moving backwards behind a raised shield, and the wound is anterior below the clavicle.

It is an odd and surprisingly innocuous place for a wound, close to and just below the site of Achilles’ fatal thrust in 22.324 ἥι κληῖδες ἀπ’ ὤμων αὐχέν’ ἔχουσι, just above the clavicle, an entirely different matter. Is this foreshadowing? Fenik³¹ is wary of such conclusions when we deal with accounts of battle scenes which are to some extent typified but with varying vocabulary. Apparent foreshadowing will occur automatically by this process without necessarily any authorial intent. Nevertheless these two scenes are so crucial that the reader (perhaps not the hearer) cannot fail to sense the connection.

(ii) *What is the local effect of the wound?* A blunt injury to the upper anterior chest wall which does not cause collapse of the bony rib cage (which there is no reason to suppose here) is a long way from any major blood vessels, and in particular a very long way from any part of the gastrointestinal tract (especially the intrathoracic gullet). What then does αἶμ’ ἀπέμεσσεν mean (437) and similarly αἶμ’ ἐμέων (15.11)? Not vomiting blood (haematemesis is the modern technical word for this), for there can be no source of bleeding in gullet or stomach. The simplest explanation is that the blunt injury to the chest wall causes bruising of and bleeding within the underlying lung, with or without rib fractures. Bleeding within the lung tissue habitually appears at the mouth, being coughed up as, in modern terms, haemoptysis. Homer uses the expression haemoptysis more precisely than we do to mean blood-spitting, as following a severe blow to the cheek in the boxing match when his friends drag Euryalus away αἶμα παχὺ πτύοντα (23.697). Thus ἐμέω must mean ‘cough up’, or perhaps more neutrally ‘bring up’, here, and not vomiting, as Hammond translates.

J. realizes this (at 436–7), but says that the poet ‘depicts the symptoms of a punctured lung or pleural effusion, which such a blow might well cause’. A punctured lung, or, technically, traumatic pneumothorax, is perfectly possible, and may cause haemoptysis, though the simpler explanation above suffices, but a pleural effusion is a watery collection of fluid which accumulates between the lung and chest wall over a period of days or weeks (for a variety of reasons), not an immediate response to trauma. It cannot be relevant here.

(iii) *How often does Hector lose consciousness?* There is no immediate reason why someone struck on the front of the chest should lose consciousness. Boxers do not knock out their opponents in this way. Therefore commentators and translators alike,

³⁰ LSJ ἀπειμι 2 occurs eight times in the *Iliad*, always as the present participle. Of six occurrences in combat, one definitely refers to departure with the back turned (13.650, where Harpalion is hit in the buttock by Meriones) and four definitely to backing away (13.516, 13.567, 14.409, and 14.461).

³¹ Fenik (n. 7), 45.

if they think Hector falls unconscious at 418, must assume that the pain of the blow was so severe that he fainted. J. spells it out. (The alternative, that unconsciousness was due to hypotension due to rapid blood loss, would not be compatible with subsequent recovery.) The problem is that men who have fainted lie silent and still, but Hector is carried off *βαρέα στενάχοντα* (432).³² So far, then, at 432 we have no evidence that Hector is unconscious, and no particular reason why he should be. He has certainly been spun round and fallen in a heap (whatever *έάφθη* means). He has been carried off groaning. But what of Hector's recovery? His friends put him in a chariot and take him behind the lines, until they reach the river Xanthos, when they put him on the ground and pour water over him. Then *άμπνύνθη*, and all depends on whether this is thought to mean 'regained consciousness', which it routinely does, or whether this curious word can be taken in another sense. If we take it with W. and L. that it is derived from a *πνυ* root, like *πεπνυμένος* and *πινυτός*, it may mean that Hector started to make sense again rather than regained consciousness. It is rare to lose consciousness after a blow to the chest, but any severe blow or shock anywhere may leave the recipient temporarily disorientated and 'making no sense'—and likely *βαρέα στενάχοντα*. We have similar shades of meaning when we describe someone 'lying senseless', which is unconscious, or 'making a senseless decision', which is behaving stupidly. Note also the phrase-clustering (see J. on 13.97–9) of *άπινύσσων* in 15.10, which L. interprets as 'dazed'. In short, it makes better sense to think of Hector as dazed and groaning, rather than unconscious and groaning, until his friends pour cold water on him, as friends do today in similar circumstances on the sports field.

Alternatively, and more simply, since Hector has been hit heavily on the chest, and perhaps had 'the breath knocked out of him', *άμπνύνθη* may simply mean 'got his breath back'. But he had breath enough to groan loudly.³³

Hector starts to make sense, looks up (*άνέδρακεν*—another rare word), and gets up either to a kneeling position (J.) or sitting on his heels (L. and W.). Either of these positions is unwise, since both impede venous return of blood from the legs to the heart, and now Hector faints without doubt. He falls back to the ground again and 'black night covered over his eyes'. When *τῷ δέ οἱ ὅσσε νύξ έκάλυψε μέλαινα*, this means a temporary loss of consciousness, due to a faint, as it does for Andromache at 22.466 or for Aeneas at 5.310, and perhaps again for Hector at 11.356, though there it followed a blow to the head, perhaps concussion.³⁴

If we rely on normal conventions, we are misled by Homer twice. First, Hector falls like a tree (414–17). Second, *έπεισ' Έκτορος άκνύ χαμαί μένος έν κόνιησι*.—with

³² In 13.423 Hypsenor is carried off *βαρέα στενάχοντα*. J. says this is a 'slip of the poet' because of 'Idomeneus' retort that he has slain three men in exchange for one (447); moreover *γούνατ' έλυσε* always denotes killing'. In this episode Hector is undoubtedly alive and there is no reason why he should not be described as *βαρέα στενάχοντα*.

³³ In the *Iliad*, *άναπνέω* is normally active in voice and means literally 'take breath' or more metaphorically 'get respite from', e.g. *πόνιοιο* or *κακότητος* (ten of eleven occurrences). *άμπνύνθη* is unique, and passive, and perhaps close to the middle *έμπνυτο*, twice in the *Odyssey*, both times with *και ές φρένα θυμός άγέρθη*. The first of these refers to Odysseus' recovery, when cast up on the beach, from the state of being *άπνευστος και άναυδος*, 'without breath or speech' but *not* unconscious (5.458). The second refers to the recovery of Laertes (24.349) who is overcome by the revelation that the stranger is his son. Odysseus catches him as he collapses *άποψύχοντα* (again unique), but before he loses consciousness.

³⁴ On these four occasions, *νύξ έκάλυψε* definitely signifies temporary loss of consciousness. At 13.580, where Deipyrus is hit on the head and his helmet struck off, it probably means death. At 5.659, where Tlepolemos is hit by a spear which goes clean through his neck, it almost certainly means death. Once at 10.201 it is used more literally: 'night covered the battlefield'.

two locatives. Both phrases, in this context, signify death in Homer. Any listener who knew the oral linguistic conventions would now assume that Hector was dead, and it is 100 lines or so before we know for sure that he is alive, conscious again but dazed (15.10–11). However, in the meantime, Homer's narrative conventions reassure us to some extent. When his great heroes die, they die on the field of battle, not behind the lines, and their deaths are followed by energetic local action concerning the fate of their bodies and armour, and preceded in the most prominent cases by dialogue after the fatal wounding.

(iv) '*Gasping and sweating*' (15.241). I take it that *ἄσθμα* comes from **ἄω*, referring perhaps originally to the simplest of all phonated breath sounds, 'I say Ah'. It is the *ur-ur-verb*.³⁵ Hence *ἄφημι*, with the motion/action implication of the *-μι* forms—'blow' or 'breathe hard', and *ἄσθμα*. That this means audible breathing or 'panting' is born out by the use of *ἀσθμαίνω* in 10.376, where Odysseus and Diomedes *κιχήτην ἀσθμαίνοντε* when they run in pursuit of Dolon. T. gives 'rapid breathing' (quick respiration) quoting Galen on Hippocrates *ἄσθμα. καλοῦσιν οὕτως οἱ Ἕλληνες τὴν πυκνὴν ἀναπνοήν, οἷα συμβαίνει τοῖς δραμοῦσιν ἢ ὅπως οὖν ἐτέρως εἰς σφοδρὰν κίνησιν ἀφικομένοις*.³⁶

In 15.10, *ἀργαλέω ἄσθματι* is highly appropriate, as deep or even normal breathing can be excruciatingly painful in someone with injury to the chest wall and underlying lung. In 15.241 *ἄσθμα καὶ ἰδρώς* is more difficult. People do sweat from activation of the sympathetic nervous system when they are frightened or as a response of the sympathetic system to low blood pressure ('shock', technically). Both mechanisms are possible here. But the commonest cause of panting and sweating is simple exercise (where sweating is an important temperature control mechanism), and I suspect that *ἄσθμα καὶ ἰδρώς* is formulaic, and only approximately appropriate here.

(v) *Rapid and miraculous healing in Homer*. This is inevitable. Since Homer has chosen to pace his plot over a few days only, and since it would be unrealistic and crippling to the plot if none of his main characters were ever wounded, they have to be got back into action, when wounded, almost immediately. The wounds must be therefore either trivial, or forgotten in the later text, or miraculously healed, as here when Apollo *ἐμπνευσε μένος μέγα ποιμένι λαῶν* (262). Recovery from such injuries 'in reality . . . would take weeks', as J. correctly states at 240–1. Miraculous healing, when Homer in the *Iliad* avoids miracles where possible, is a price he has to pay for the rapidity of his narrative style.

(10) *Ajax casts a spear at Pouludamas, who avoids it by jumping sideways, but it hits Archelochos* (14.459–66)

The spear hits Archelochos 'at the joint of head and neck, on the topmost vertebra, and sheared through both the tendons. And his head and mouth and nose reached the ground well before his legs and knees as the man fell.'

J. believes that Archelochos is decapitated because the same formula *ἀπὸ δ' ἄμφω κέρσε τένοντε* is used for the decapitation of Dolon (10.456), which is done more plausibly with a sword. Here, says J., 'the grisly detail of the death-blow hides the

³⁵ Doctors have used the singular second-person imperative of this verb from time immemorial, since it causes the soft palate to rise and the posterior pharynx (back of the throat with the tonsils) to become visible to inspection.

³⁶ Galen, *In Hippocratis aphorismos commentarii vii*, ed. Kühn, *Claudii Galeni Opera Omnia*, vol. 17.2 (Leipzig, 1821).

implausibility that a spear-cast could inflict it'. It is worse than implausible. The idea that a piercing weapon not more than 3 inches wide could sever a structure made of bone, cartilage, gristle, and flesh which is about 6 inches in diameter is impossible and indeed ludicrous.³⁷ If Homer intends decapitation, this is the most outrageous of his mismatches of wound and weapon. An alternative view is that the spear passes between the upper two cervical vertebrae, the atlas and the axis, probably from behind, severing in succession the spinal cord, the local posterior ligaments,³⁸ and the odontoid peg, which is the relatively fragile equivalent of the vertebral body at this site. (Archelochos must have been running away.) This joint, however, is tucked well in under the occiput, and perhaps the joint between second and third cervical vertebrae would be more accessible to a spear wound. In either case, the head would then drop forward, and might conceivably hit the ground before the rest of the body if the victim fell 'like a tree' or with his body curved forward. Both J. and L. consider both possibilities. J. takes the analogy with 10.456 as conclusive. L. does not decide between the two alternatives. Hammond's translation above seems to take the second, which I find more plausible. To me it is a variant of the motif of neck-wound followed by drooping head (and κώδεια appears quite shortly at 499).

The involved joint (συνεοχμῶ is *hapax*) cannot be exactly specified by Homer—the atlanto-axial joint is one of the most complicated bony structures—but the joint between first and second, or second and third cervical vertebrae is close enough for the νεῖατον ἀστράγαλον (466). τένοντε are generally dual in Homer (4.521, 5.307, 10.456, here, 17.290, and 22.396), but only identifiable in the last instance as the ankle tendons in front of which Achilles passes straps with which to drag Hector's body behind his chariot (now called Achilles' tendons). Tendons in the plural (16.587 and 20.478) are not identifiable either. At 10.456, L. thinks that the τένοντε are the two strong bands of muscle which run up the back of the neck, but it is difficult to define these anatomically. It is probably unwise to assume that the word means 'tendons', but is perhaps better to think of them as long, thin structures. In the neck the two obvious candidates are the two sterno-cleido-mastoid muscles which run very superficially up both sides of the neck, but are used to rotate the head, not hold it upright, and they would not be involved in the wound which I have hypothesized.

(11) *Peneleos hits Ilioneus with a spear thrust below the eyebrow (14.487–505)*

The spear goes through the θέμεθλα of the eye (? attachments—see (6) above) and pushes the eye out of the socket. It nevertheless transfixes the eyeball and goes through the head and out at the back through the ἰνίον. The inion in anatomy is the external occipital protuberance (the bump in the middle of the bottom of the back of the head), an area commonly known as the occiput. LSJ takes this meaning, quoting Aristotle's definition,³⁹ as the back part of the τριχωτοῦ κρανίου. Eustathius also thought that ἰνίον meant the occiput.⁴⁰

L., W., and J. all take ἰνίον to mean 's', that is some tendon (W., L.) or sinew (J.) at

³⁷ To sever the neck reliably, one needs a heavy axe descending from a great height, as J. I. Guillotin realized in 1789.

³⁸ Posterior longitudinal ligament and inferior longitudinal band of the cruciate ligament: *Gray's Anatomy* (London, 1949), figs 502, 503.

³⁹ Aristotle, *HA* 491a33.

⁴⁰ In his explanation of ἰδνώθη, at 2.266, Eustathius says it means ἀπὸ τοῦ τὸ ἰνίον δονηθῆναι, . . . ἔστι δὲ ἰνίον τὸ ὀπίσω τῆς κεφαλῆς.

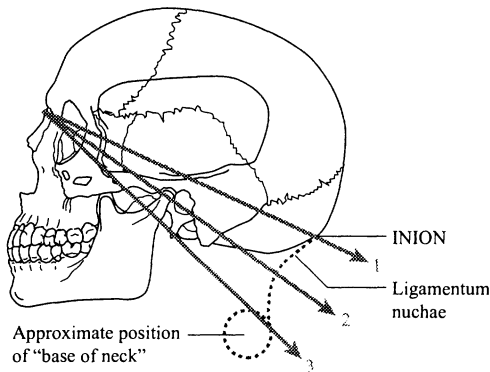


FIGURE 7. Possible spear paths at 14.487–505.

the back of the neck, but otherwise undefined. L. refers to ‘the great tendon at the back of the neck which holds the head upright’.

By this I suppose is meant the ligamentum nuchae which runs from the external occipital protuberance, ducks inwards under the back of the head and then down the neck, attaching to the spines of the cervical vertebrae and ending on the spine of the seventh cervical vertebra (the bump in the middle at the bottom of the neck at the back). Ligaments are inert, rather stiff structures which cannot hold anything upright: they serve mainly to limit excess and possibly damaging movement. The ligamentum nuchae is in any case in man an unimportant vestigial fibrous structure.⁴¹ In quadrupeds, it is much more robust. Its stabilizing function in man is largely served by the (plural) ligamenta flava which connect the posterior laminae of the vertebral bodies. It is highly unlikely that Homer knew any of these structures.

J. says that the spear ‘traversing his eye-socket and brain . . . emerges below his helmet through the sinew at the base of his neck’. A glance at the lateral view of the skull (Figure 7) shows that a spear through the eye-socket coming out at the back of the neck is unlikely to penetrate the brain (paths 2 or 3), and if it did come out of the back of the neck it would seriously impede the forthcoming decapitation (with a sword, this time). It is perfectly realistic for the spear to go back through the eye-socket, through the brain and out through the back of the head, or occiput (path 1), and the commentators give no reason why they prefer the meaning ‘tendon’ to the meaning defined by Aristotle and Eustathius. ‘Tendon’ gets us into problems which would be better avoided.

(12) *Meges hits Amphiklos with a spear-thrust ‘at the top of his leg where a man’s muscle is thickest: the spear-point sliced through the tendons . . .’ (16.313–16)*

There is thick muscle all round the top of the leg, and the ‘tendons’, here *νεῦρα*, are again unidentifiable, probably just long, thin structures, possibly nerves. L. says that gluteus maximus ‘is in fact the “thickest muscle” in the human body’. He gives no evidence for this. Muscles are irregularly shaped structures. Where would one measure thickness? How? It is foolish to think that Homer could separate what we

⁴¹ What stops the head falling forward in the absence of muscular tone is the chin hitting the chest, as academics best know.

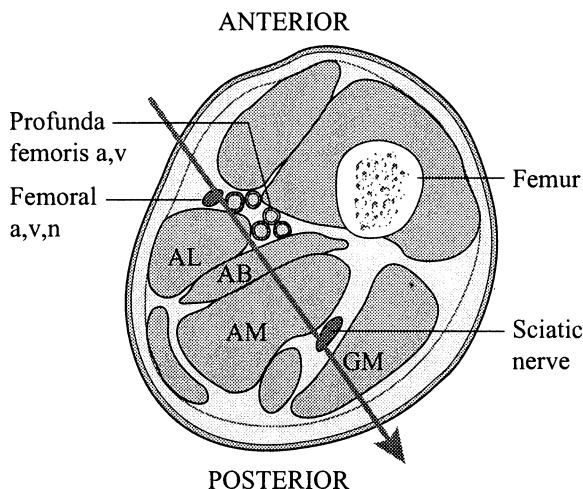


FIGURE 8. Cross-section of thigh just below the groin. Muscles: AL, AB, AM: adductor longus, brevis, magnus; GM, gluteus maximus. Femoral artery (a), vein (v), nerve (n). Profunda femoris vessels are named similarly.

now call gluteus maximus from all the overlapping thick muscles of the thigh, some of which are shown in Figure 8.⁴² J. says that Amphiklos is hit in the front while attacking, and would have died from a severed femoral artery, which is possible, but he too wants the thick muscle to be the gluteus maximus. The femoral artery is anterior and medial to the femur. The gluteus maximus is lateral and at the back. A stab wound in the thigh just below the groin medial to the femur and passing posteriorly and laterally could sever the femoral artery and vein, the profunda femoris blood vessels, the femoral nerve, the sciatic nerve, pierce three thick muscles (adductores: longus, brevis and magnus) and finally emerge through the gluteus maximus. This should do it: it would certainly produce what footballers call a dead leg—but permanently (Figure 8).

Anatomically it could equally well go in at the back and come out at the front with identical effect. Fenik⁴³ feels that Amphiklos must have been hit in the back of the thigh, despite the fact that he is *ἐφορμηθέντα*, but gives no anatomical or other reason for this. Perhaps he accepted L.'s assertion about gluteus maximus being the relevant muscle and concluded that it must have been pierced first, therefore from behind. I suggest that, on the contrary, *πάχιστος μῶν* simply refers to a region of the thigh where the muscle bulk is prominent. The front of the thigh is perfectly appropriate, but the gluteus maximus is mainly in the buttock. It is possible that the buttock might be the *πρυμνὸν σκελός*, but why invoke a more complicated explanation?

Sudden death from peripheral wounds. L. quotes the scholiasts as being concerned that a wound in the root of the thigh could hardly cause sudden death, and both he and J. feel that the femoral artery must be involved if the victim is to die 'soon'. Severance of a major artery does not solve the problem of sudden death in Homer.

Sudden death is a rare event. Cardiac wounds that terminate the heartbeat cause sudden death, as may other events that cause abnormal and ineffective heart rhythms.

⁴² Gray's *Anatomy* (n. 38), fig. 750.

⁴³ Fenik (n. 7), 196.

Wounds to the head (unless catastrophic), chest (not involving the heart), belly, or limbs do not. Bleeding from big arteries does not usually cause sudden death because of local protective mechanisms involving the constriction of muscle in the arterial wall, and because internal bleeding is often into a quite tightly confined site. Thus survival of many minutes or even a few hours is quite usual—as is seen, fortunately, for victims of road traffic accidents or modern wars. Yet Homer's victims *seem to* expire immediately or almost so. It is a convention, and another price he pays for rapidity. It is not a convention confined to Homer. In Western films of an earlier and gentler era, soldiers or cowboys fall dead tidily with arrows impacted in, but clearly not piercing, the shoulder blade. It does not worry us, nor should it do so in the *Iliad*.

(13) *Thrasymedes hits Maris with a spear-thrust in the shoulder. 'The spear-point tore the arm away from the muscles at its base and sheared the bone right through' (16.321–5)*

Thompson (see n. 18), a surgeon, cannot do this one ('Here Homer's account is not so anatomically exact as is usual with him') and neither can I. J. thinks (with LSJ) that ἄχρῖς means 'utterly' smashed the bone (difficult with a spear-point). I suspect that ἀπὸ δ' ὀστέον ἄχρῖς ἄραξε may mean 'knocked the bone away', in the sense that the spear went through the shoulder joint and dislocated the upper arm bone (humerus) away from the shoulder blade. Hammond seems to imply this (above), then adds 'and sheared the bone right through'—but ἀράσσω does not mean 'shear'.

δρύπτω and ἀποδρύπτω refer elsewhere to superficial and messy wounds mainly involving the skin. Eagles tear each other's flesh with their talons (*Od.* 2.153). Odysseus is in danger of being scraped on the rocks when he is cast ashore (*Od.* 5.426, 435), and of a similar injury if dragged by the angry suitors through the house (*Od.* 17.480). Both Athena (*Il.* 23.187) and Apollo (*Il.* 24.21) take steps to see that Hector's body is not damaged when dragged by Achilles. In *Od.* 5.426 (see above) δρύπτω and ἀράσσω are again combined in the potential injury to flesh and bone which Odysseus might have received if cast on the rocks by the surf.

There is nothing in any of this to suggest or reflect damage that might be done by a spear wound. Again, it suggests mismatch, though even a jagged slash from a sword is not entirely appropriate.

(14) *Idomeneus stabs Erymas in the mouth. 'The bronze spear passed right through and under the brain, smashing the white bones. His teeth were knocked out and both eyes flooded with blood' (16.345–50)*

J. says the spear 'enters his mouth to traverse the base of his brain, emptying his mouth of teeth and filling his eyes with blood'. None of this can be true.

Figure 9 shows an X-ray film of a woman 'assaulted with a knife while shopping in a supermarket'. '[The] blade passed through her left nostril, penetrating the posterior pharyngeal wall and becoming embedded close to the transverse process of the second cervical vertebra'.⁴⁴ It goes nowhere near the brain, nor would a horizontal or even moderately upward-sloping wound through the mouth (which is further away from the base of the skull than the nostril). Homer in any case says νέρθεν ὑπ' ἐγκεφάλῳ, not

⁴⁴ S. Hamilton and G. W. McGarry, 'From Minerva's photo album', *British Medical Journal* 313 (1996), 1653. They pulled it out under anaesthesia and she went home.

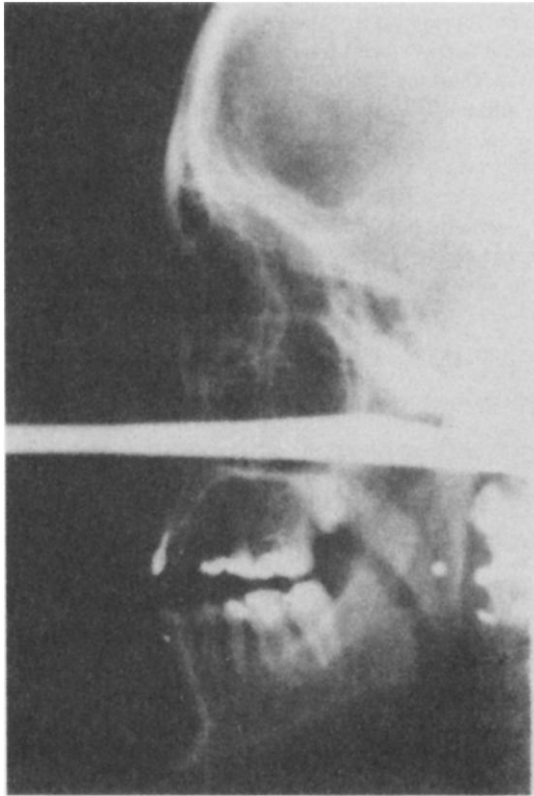


FIGURE 9. X-ray film of a woman with a knife wound through the nostril. The horizontal radio-opaque white object is the knife. Reproduced with permission of BMJ Publishing Group (see n. 44).

διά. The spear would knock some teeth out, but to empty the mouth of teeth (in modern practice) is a lengthy surgical procedure. This wound cannot cause bleeding from the eye sockets or visible bleeding (visible to the onlooker) within the eyeball. A variety of anterior facial wounds can, however, cause haemorrhage under the conjunctiva (the 'skin' of the eyeball), which is striking and bloody—but not instantaneous. This is perhaps what Homer is thinking of. The white bones are most likely the jaw bones, not the cranium.

POSTSCRIPT

It has long been an amusement for physicians to interpret the medical problems of historical or literary figures in terms of modern pathophysiological ideas. Does any of it matter?

Mostly not. It is of no interest to me what Mozart died of since it makes no difference at all to what I feel when I listen to his music. Similarly I have no interest in the continuous appearance of literature trying to relate the journey of Odysseus to modern landmarks. He was in fairyland.

But this is different. Since when I read theatrical texts (I use the word 'theatrical'

vaguely), I have a vivid vision in my mind's eye of what is happening, it is crucial to me what the physical details of the described scenes are. I must have them, if I can. I hope this paper may assist those with similar difficulties.

Homer, by the way, is not theatrical. He is cinematic, I suggest.

Blackheath, London

K. B. SAUNDERS
ksaunders@btinternet.com