

History of Medicine

Gunshot Wounds of the South African War*

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SUMMARY

This historical glimpse into one particular corner of the South African war, the gunshot wounds suffered by soldier and succoured by surgeon, purposes to show that despite initial misgivings about the expected ugliness of the wounds which were to be caused by the Mauser and Lee-Netford projectiles on the battlefield, according to the ballistic experts, they turned out to be of remarkably benign nature to the astonishment of all military surgeons who had to do with them, and, in historical review, might be regarded as unique.

S. Afr. Med. J., 45, 1089 (1971).

The massive corpus of writing on the South African War contains publications by English, German, Swiss, Portuguese, French, Italian, American, Dutch, and South African Afrikaans and English individual authors, as well as compilations by various departments of State, and is quite remarkable as mute evidence of the international interest, concern, and attention incited by this the last of Great Britain's imperial wars, among the political, religious, ethical, financial, jingoistic, philanthropic, and military minds of many nations.

Medical matter is scattered among the records of general administrative problems of hospital maintenance and the humanitarian efforts of the different national Red Cross contingents which came to serve in South Africa. A survey of the content of all this available bibliography, which is in the South African Library, discloses no piece of medical writing that touches upon the subject matter of this article, other than that of Dr H. Küttner's *Unter dem Deutschen Rothen Kreuz im Südafrikanischen Kriege*¹⁷ and Dr Matthiolus' *Tagebuchblätter aus dem Boerenkriege 1899 - 1900*.¹⁷ I have also turned to those few contributions to the English and German medical press of that time^{1,2,10,13-14,16,18,19} and to another later and more defined book by Küttner, *Kriegschirurgische Erfahrungen aus dem Südafrikanischen Kriege (1899 - 1900)*, which was reviewed in some detail in the German medical press²² at the time of publication, for the substance from which I have derived the information embodied in this article.

WAR WOUNDS

Were it not for our modern means of combating threatening sepsis, the war wounds of our own time would be as

fatal as they were in the days of Homer's Trojan War and at the beginning of the Christian era, when it was written that it was impossible to save a soldier when 'the base of the brain, the heart, the gullet, the porta of the liver, or the spinal marrow had been *pierced*; when the middle of the lung or the jejunum, or the small intestine, or the stomach, or the kidneys, had been wounded; or when large blood-vessels and arteries in the region of the throat had been cut. There was hardly ever recovery when either the lung or the thick part of the liver, or the membrane enclosing the brain, or the spleen, or the . . . bladder, any of the intestines or the diaphragm had been wounded in any part'.² The safest of all wounds was a 'wound of the flesh' by which was meant the superficial soft tissues. The weapons used to inflict such wounds were wielded by hand or propelled by the bow. Despite the passing of centuries of time with the concomitant change in the effectiveness of various pieces of ordnance, the nature of war wounds retained their original mortal threat which was implicitly contained in the ever-present sepsis which was the companion of such wounds.

Thus, if we, skimming through books on European history so crammed with war, take notice of bone injuries which in particular are liable to become infected, we find that in the Crimean War, immediate amputation was the rule if at all possible but over 73% of the victims died from the amputation, and of those conservatively treated just over 72% died! In the American Civil War the figures were respectively 53.8% and 49.9%; in the Franco-German War on the German side the figures were 65.6% and 28.7% and on the French side where almost all amputees died following operation, 90.6%—these constituted 91% of cases, whereas the German surgeons amputated in about 50% of the cases. The smaller number of cases in the Spanish-American War showed still more favourable results following a conservative practice. The 2 outstanding unfavourable factors influencing prognosis were the type of fire-arm which had a comparatively low velocity with the large calibre of the projectile, and the proclivity of the missile to introduce sepsis into the wound, which under war-time conditions is always a major hazard. About 1 year before the outbreak of war in South Africa, the gunshot wounds from the Mauser used in the war in Cuba in 1898, were under review and being discussed by Professor Nancrede at a meeting of the American Surgical Association.¹⁶ Fifteen hundred cases of gunshot wounds inflicted by the Mauser and Krag-Jørgensen bullets had been studied and the conclusions arrived at were strikingly similar to those to arise from examinations of the wounds from the Mauser and Lee-Netford weapons to be used in the South African War.¹⁴

*Date received: 18 March 1971.

ARMA VIRESQUE

Artillery⁷

In the South African War artillery played a rather small part in the infliction of war wounds. Heavy ordnance was only brought forward to subdue or defend the besieged in memorable sieges like those of Ladysmith and Mafeking. Besides the fact that relatively little use was made of artillery, the excellent powers of concealment displayed by the Boer forces were even more responsible for their protection from the larger missiles.

Nevertheless, the use of shrapnel introduced a mortality as high as in earlier wars, which was not so much attributable to the nature of the wounds caused by this type of projectile *per se* as it was to the frequent occurrence of sepsis which it set up in the wound. The prognosis for shrapnel bullet wounds was unfavourable because of the large wounds they caused which in themselves rendered the combatant *non compos corporis*. Shrapnel also produced varying degrees of shock but of a severity which would effectively disable a soldier if he received only a superficial flesh-wound. The healing of shrapnel wounds was a long and tedious business because of the commonly associated infection.

Bone injuries caused by shrapnel were similar to the injuries of bone produced by the old-fashioned lead bullets fired from large-calibre guns. Apart from the large size of the wounds and the damage caused by the initial penetration of the missile and the likelihood of secondary infection following, there was little else that could be regarded as characteristic of this type of wound.

Hildebrandt⁷ gives instances of the small effect of the big guns. On one occasion 400 shells were dropped on the lager of Major Albrecht and although they fell close to the tents no one was hurt! The lyddite bombs from the British naval guns brought up to subdue the Boer emplacements, despite their fearful and threatening purpose, turned out very frequently like damp squibs, for, as Hildebrandt described them, they usually made a metre-deep hole in the soft earth without further damage, and as often as not did not explode! When they *did* explode, they did little damage, as on the occasion when some Boer combatants were busy (when they should not have been) making coffee round a campfire and a lyddite bomb fell among them and onto the fire; some were wounded but they all got away with their lives. The gas of these lyddite bombs was poisonous but it only caused a feeling of unwellness with a headache, water carried in waterbags turned bitter, and the vultures did not like the taste of horseflesh killed by these bombs. At Ladysmith the Boer big gun 'Bulwana Bill' used to fire 20 shells a day for days (except on Sundays) into the town but did little damage other than to harass the occupants.

Small-arms^{3-5, 8, 11, 16-19}

Recognition of the small part the big guns played necessarily directs attention to the importance of small-arms in the South African war. Small-calibre weapons had been

introduced into armies in 1888,¹ and were manufactured for the German, Argentinian, Belgian, Spanish and Turkish armies in the shape of the Mauser weapon with slight modifications in the weight of the bullet for each army, the weights varying from 10 g to 14.69 g. The Lee-Metford used by the British army fired a bullet of 13.84 g, the same as that of the Argentinian Mauser. Factual reporting on the nature of wounds, from a medical viewpoint, had not been forthcoming in any detail, except for the American evidence quoted above for the war in Cuba, until the advent of the South African War.¹⁶ Impressions had been derived from other wars, such as the Chilean civil war and the British expedition to the Sudan, but apart from confirming the military effectiveness as regards accuracy and range, they had not added significantly to a knowledge of the type of wounds which could be inflicted. This was of considerable importance as the experimental work, namely the tests and trials carried out by Von Coler and Schjerning on the Mauser gun in Berlin, had led to quite different conclusions. Professor Von Bruns¹ actually quoted the words of these two ballistics experts who appeared to have been somewhat depressed by their observations: '*dass die Ansicht von dem humanem neuen Geschosse unwiederbringlich verloren sein muss*'.

From this statement we conclude that because of the expected viciousness of the wounds to be caused by these small-arms, they were to be adopted on an almost world-wide basis! Happily, their hopes (*sic*) turned out to be wholly unfounded when tested on the battlefield. None of the appalling destructiveness that had been attributed to the new gun and its projectile when tested on cadavers of animals was witnessed on the battlefield. In South Africa the wounds healed with the same facility as they had done in Cuba, and not only the flesh wounds but cases of bone injuries and other injuries involving the gut and visceral cavities. MacCormac¹⁶ with his considerable knowledge of war wounds was able to say that his experience of abdominal wounds would not have led him to believe in the comparative 'immunity' of the abdomen from wounds caused by the Mauser and Lee-Metford bullets.

It was the jacket, or casing, or plating of the bullet of these small-calibre (7 mm and 7.6 mm) high-velocity guns which made all the difference to the injury suffered, producing a characteristic type of wound in almost any part of the body where it might lodge or which it might transfix. There was less destruction of tissue, the track was narrow, the entrance hole was much smaller and the exit hole not much bigger. There was much less chance of foreign matter entering the wound, the bullet seldom became distorted and rarely remained caught up in the tissues; less damage was done to important anatomical parts than occurred with the large-calibre lead bullet. External bleeding was minimal and in South Africa infection seldom occurred and scarring was slight because of reasonably prompt treatment and protection with the first field dressing used by the British forces. The liability of the bullet to ricochet was much diminished, and only rarely did tissue extrude from the wounds caused by these jacketed bullets.

Lategan¹⁵ who is an authority on all kinds of fire-arms which have been used in South Africa, asserts also that the Boers' chief and most modern weapon was the 7-mm

Mausers. There were 2 models of the Mauser in use by the Boers, the long-muzzle carried by the infantrymen and the short-muzzle with straight stock—the Mod-Mausers—carried by the *ruiter*. Lategan proved the penetrating power of this gun by shooting a Mauser bullet clean through the blade of a ploughshare! The muzzle velocity of bullets fired from these small-arms had been estimated by ballistics experts to be approximately 2 400 km/hour.

Treves¹⁹ gives an amazing instance of the penetrating quality of the Mauser bullet: the bullet passed through the centre of a Lee-Enfield cartridge carried in the cartridge-belt of a soldier; it scarcely bent the cartridge, it left the cordite inside intact, then passed through the abdomen to come out through the buttock. There were practically no symptoms.

Another example was the buttonhole opening a Mauser bullet made in passing through a nerve without dividing it. Bones appeared perforated as though 'a gimlet had passed through them.' The middle phalanx of the ring-finger and the middle phalanx of the little finger were penetrated by perfect holes, 2 entrance and 2 exit openings, with a recovery so perfect that eventually it was difficult to tell that the hand had been wounded. On the evidence of the in-and-out holes neither Treves¹⁹ nor MacCormac¹⁰ believed the Mauser bullet deviated from its trajectory when it entered the body.

These characteristics of the bullet enabled it to transfix more than one victim, something that had never been known to happen with the lead bullet.

WOUNDS CAUSED BY SMALL-ARMS

Bone Injuries

Bone injuries were noteworthy. Although damage to the diaphyses of the long bones was only occasionally severe when caused by the lead bullet, the accompanying soft tissue destruction was very much worse and, with secondary infection, sure to have a bad prognosis; but injuries of the epiphyses of spongy bone, and injuries of the flat bones were noticeably less severe when produced by the plated high-velocity small-calibre projectile. Joint injuries had extraordinarily good prognosis. A knee-joint could be completely transfixed by a Mauser bullet yet the worst it would do would be to injure the popliteal artery, and apart from a possible haemarthrosis, there was little other damage. Of 92 knee-joint gunshot wound victims, 28 were returned to the frontline.¹²

Wounds of the Skull

The Mauser bullet wounds of the skull were even more astounding. Dent's comment on this kind of war-wound was summarized in his remark, 'The experience of gunshot wounds of the head in this war almost appears to render the use of the frontal lobes questionable'.³ One *Tagesgeschichtliche Notiz* which appeared in the German medical press ran thus: 'Several cases of shots through the liver and kidneys were symptomless. In several cases the bullet penetrated the brain without producing any actual

symptoms and the cases healed completely(!). In one case the bullet penetrated the vertex of the skull, passed through the brain, the hard palate, the cavity of the mouth, and came out of the neck; except for a headache and some strabismus there was very little else to see'. It added that, according to J. Hutchison, only heart wounds proved fatal.¹⁸

Wounds of the Heart

Contrary to this last statement, MacCormac refers to the case of Nancrede in which it was believed the heart had been traversed, but the victim recovered. MacCormac himself had seen 3 instances in which it was impossible that the heart could have escaped injury—unless the bullets had been deflected in each case—but which nevertheless made good recoveries.¹⁶

Wounds of the Lungs

Wounds of the lungs caused by the 2 types of bullet, old and new, were strikingly different, and the mortality from the Mauser type was very low indeed. The wounded recovered from these in a manner which previously was not possible. The external wounds appeared like small incisions rather than contused lacerations, and they closed very rapidly. The absence of any explosive effects and the great infrequency with which bits of clothing or any other foreign material was carried into the wound was noteworthy and contributed to the remarkable healing. An example is given to illustrate this: a Boer shot through the lung smoked his pipe comfortably the next day and on the one following he insisted on going home to his wife. Penetration of both lungs at times scarcely showed, and then only by evidence of slight superficial bleeding, although a degree of haemothorax was not uncommon. Of 154 men shot through the chest, 73 were returned to the frontline.

Hildebrandt⁶ on his side of the front confirmed these observations of the British surgeons.

Wounds of the Abdomen

These were no less remarkable. All those cases operated upon on the British side were lost and this happened even with the most experienced surgeons,¹⁹ whereupon abdominal laparotomies were discontinued because they could not be performed aseptically on the South African battlefield. It often happened that a through-and-through wound of the abdomen did not hurt the gut. Conservative management of abdominal wounds held the promise of a favourable outcome, in sharp contrast with earlier experience of laparotomy which necessarily followed wounds caused by the old type of bullet if there was to be any hope of survival. Von Coler and Schjerning¹ had expressed a fear that penetrating abdominal gunshot wounds would have a higher mortality if immediate laparotomy were not carried out, but MacCormac¹⁶ and Treves¹⁷ showed by their experience in the South African War that one of the most remarkable features was the large number of abdominal

wounds caused by small-arms which healed without serious complications, and *without operation*, even when the intestines had been penetrated, as was assessed by blood in the faeces. A help towards a favourable prognosis was an empty gut as well as the smallness of the opening in the gut wall made by the Mauser bullet. It appeared to these surgeons that the smallness of the puncture in the gut wall enabled the aperture to close before the contents of the gut could enter the peritoneal cavity. In 3 cases which MacCormac saw at the time of operation it appeared quite likely that such could or actually did happen.

Because of these findings there came about a significant reduction in abdominal laparotomies. Either the injury was regarded as so serious as to make an operation useless, or it was of the kind which would heal smoothly. MacCormac postulated the need for a complete revision of the indications for operation for gunshot wounds of the abdomen. Treves, also, found few abdominal gunshot wounds requiring laparotomy.

On the Boer side, Küttner's experience of wounds caused by the Lee-Metford was similar. He wrote in a letter: "Abdominal wounds also fare better, and if I think of what occurred at the beginning I can say that we treat a great number now by conservative means, and they recover! And our experience agrees with that of the English surgeon MacCormac and his colleague Watson-Cheyne, viz. that the abdominal wounds heal when left alone and that patients die when operated upon. It is certain that primary laparotomy is not to be attempted and with the number of abdominal wounds it would not be possible to operate on all. However, we have never seen wounds of the liver, all these appear to have died on the field of battle". Later Küttner added: "In a postmortem examination we carried out on a soldier, it was interesting to find that he had died from haemorrhage on the battlefield, that his guts had prolapsed through the wound of his abdominal wall, yet no part of the gut was injured, which was significant for us and confirmed our clinical experience".

Immediate and later surgical experience of abdominal gunshot wounds led to the propounding of conditions which would justify operation. They were: a casualty seen within 7 hours of wounding; in cases where no transport was available; when the victim's stomach was empty; and where the penetrating wound was above the navel and bleeding was profuse. The ultimate indication, profuse bleeding, was seldom found. If these conditions could not be satisfied, the treatment was to be conservative.¹⁰

Contributing factors to spontaneous healing were the high velocity of this new type of bullet, the nature of the wound it caused, the antiseptic practice and the use of the first field-dressing on both sides. The first field-dressings provided by the German Red Cross contingents for the Boers was described as the most important advance in field surgery.¹⁰ Conservative management also proved significant for the final result of treatment. A very large number of abdominal wounds were suffered on both sides, but healing usually proceeded without operative interference. This occurred even when the evidence of the gut injury was confirmed by blood in the faeces. To sum up, MacCormac declared: "I have seen more than 50 cases of injury of this kind recover without any interference beyond

aseptic occlusion, and in many instances not even that was accomplished. We know that comparatively few cases recovered after an operation in this war, and none, it is stated by Nancrede, recovered after operation during the Cuban war".¹⁴

Other Wounds

Wounds of the pelvis resulting from the new bullet, usually healed quickly, and the prognosis for injuries of the bladder also became more favourable, although for the latter the prognosis for damage by the old lead bullet had never been grave. This could not be said of wounds of the rectum.

One example of a compounded gunshot wound occurred in a soldier shot by a Lee-Metford. The bullet pierced the humerus in its midshaft, entered the thorax to produce a haemothorax, and continued to penetrate the diaphragm and right kidney, the latter being diagnosed by the onset of haematuria. This wound healed satisfactorily without operation.

This case was not exceptional: a *ruiter* was shot through the femur, but there was little blood loss and he was prepared to carry on until he later rode off to the nearest field-dressing station. Sometimes, the jacket separated from the core of the bullet and then the 2 parts were likely to become distorted and so worsen the nature of the wound.

AMPUTATIONS

A glance at the figures quoted for amputations in previous wars will show a remarkable fact: almost no amputations were performed for small-calibre gunshot wounds of an extremity during the South Africa War, provided the antiseptic first field-dressing had been immediately applied and complete rest had been given to injured part. Wounds of the limbs were not probed and the mortality from wounds was exceptionally low. The amputations and any resections of tissue that were done were almost always the result of severe grenade and shrapnel wounds. The Mauser bullet, actually described as '*gutartig*', when fired from a distance of between 1 500 and 2 000 metres would penetrate bone 'like a needle' without splintering it. But at a range of 500 metres it did splinter tubular bone. It was the bone injury without splintering which made a conservative regimen so satisfactory. In the Crimean war *no* cases of wounds of the knee-joint survived, whereas, in South Africa, when immediate care was available, *none* died.

MacCormac¹⁶ expressed astonishment at the extraordinary 'harmlessness' of the Mauser bullet when compared with the '*Zündnadelgewehr*' or needle-guns in earlier use in the German army, or the '*chassepots*' of the French.

SOME ADDITIONAL OBSERVATIONS

In a letter from Jacobsdal, dated 23 February 1900, Küttner¹ wrote: "Naturally, we immediately had our hands full. The hospital, which we cleared as quickly as possible, at once filled up again. If the modern type of wounds were

not so favourable and so few operations needed to be done, I do not know how we should have managed . . . There is, as you have repeatedly said, a strikingly favourable prognosis for modern gunshot wounds in general and treatment is almost unreservedly conservative. The worst wounds, as heretofore, are those of the skull and its contents which chiefly demand operative treatment . . . Gunshot wounds which also have a good prognosis are those resulting from the bullet entering the mouth or nasal parts and having the exit from the neck or back. Despite damage to the pharynx or lungs, these wounds heal very satisfactorily . . . Kidney wounds are more common (than liver wounds) and have a favourable outcome.

'Wounds of the large blood vessels are frequently seen but although bleeding is profuse, it soon stops because of the small skin opening and not seldom it leads to aneurysm formation. We also frequently see nerve injuries'.

In another and later letter Küttner said: 'We have taken the more seriously wounded from Jacobsdal to hospital. Any description would mock what they had to suffer. Medical help was absent and the wretched wounded lay for 10 long days in the bush on the banks of the Modder River, with tobacco leaves on their wounds and some of these were killed by grenades or wounded a second time. While we treated the newly wounded from the Battle of Jacobsdal on the Riet River and at Klipdrift . . . from the first battle of Paardenberg, I lost only a very few, for the results achieved were favourable. The wounded at Cronje's Lager and those at Magerfontein were almost all infected to some extent. So, whereas we should have had little operating to do, we now operate daily on many of the wounded, amputating, which would not have been necessary but for the sepsis from which many would have died, as some have, from tetanus.' (Fig. 1.)



Fig. 1. An operation in progress in the hospital at Jacobsdal. (Photograph by Küttner.)¹¹

Dent⁵ had records of 3 000 gunshot wounds sustained in the War and he also used the epithet 'humane' when referring to their nature. But perhaps it was only more humane in that infection could be prevented, sepsis and tetanus thus being avoided. Since the wounds were 'humane', he said the South African War could be regarded

as 'humane' also. Operations were done in the open, in tents generally, and Dent found that the wounds from Mauser bullets were much less harmful and in this respect distance was no factor. But skull wounds gave poor results and trepanning had to be done in every case. Dent also attributed much of the operative success to the good climate.

It was, despite the favourable prognosis for the wound *per se*, not uncommon for the British soldier to die from haemorrhage on the battlefield for the British forces appeared to have had no rescue discipline for the wounded. With the Boers it was different. They went into battle somewhat like the warriors of the Trojan War each of whom had a friend to fight by his side and whose duty it was to do his utmost to save his friend should he be incapacitated by injury, or recover his body if killed for decent burial. Father and son often constituted such a unit.

Thus, to be wounded by rifle fire and to continue to fight was not uncommon among the Boers. Even the horses were remarkable in much the same way. In one instance, the horse ridden by a German military surgeon was shot underneath him.⁹ Two bullets passed through the bones of the equine pelvis and one through its neck but neither horse nor rider was thrown, and the horse actually carried its rider from the field. In another instance, a horse suffered a penetrating wound of its lungs but continued to carry its rider bravely throughout the battle only to collapse suddenly at the end of it all.

It was for these reasons that those who had first-hand experience of wounds resulting from small-calibre guns could risk using the phrase, 'the humanity of the small-calibre gun'.¹⁵ Küttner believed that, from a military standpoint, they had arrived at a point where a further reduction of the calibre combined with even higher velocity of the projectile fired from still greater distances, would produce even less severe wounds. This kind of opinion seemed to take all the purpose out of war and seemed to forecast a wholly humanitarian hostility!

One natural factor which was said to contribute greatly towards the favourable prognosis for these wounds, was the heat and the dryness of our South African climate. It helped to quickly close the external openings early which were slit-like and with little bleeding (which frequently was the only immediate indication of the site of injury), and protected the track from infection. Yet there were other opinions about the climatic conditions. MacCormac²⁰ said 'in many places in South Africa the surrounding conditions were most unfavourable; the atmosphere was reeking with putrid dust, the flies and other difficulties in maintaining asepsis rendered a successful (abdominal) operation impossible'.

DISCUSSION

This research into the nature of war wounds, in particular the small-arm gunshot wound inflicted on combatants in the South African War by the highly developed, high-velocity, small-calibre, plated bullet fired from the Mauser and Lee-Metford rifles or their modifications, highlights several historical features of this war which bear recalling.

The South African War was the first, and probably the last, war of major importance in which the war-wounds suffered could possibly be characterized by the epithet 'humane'. The casualties on both sides which were due to projectiles were far fewer than the casualties due to illness and epidemic disease such as enteric fever and dysentery, the results of natural infection under the conditions of war.

The technological progress in the arms of war *pari passu* with the scientific advances in the field of medicine, caused the curious paradox that the injuries inflicted by the small-arms were conducive to better healing than ever before. To this comparatively benign nature of the wound were added the greatly augmented healing powers of our profession, developed by men like Pasteur and Lister.

A horrifying thought also arises, viz. that the South African War, despite wartime jingoism and other expressions of political hatred, should perhaps turn out to be the only war ever to have been fought with such advances in arms, ammunition, and medical science to cause it to be described as 'humane', for this war was to be followed by 2 world wars in which there was to return all the ugliness of war-wounds caused by artillery fire to the extent that the small-arms of the infantry served more for the support of the tired infantryman than for the destruction of the enemy.

Mortar fire alone in some of the fields of war accounted for more than 60% of casualties on land and in spite of medical contributions in the form of chemotherapy and antibiotic therapy during the second of these wars, sepsis again became a rampant menace to the wounded soldier as it had been before the South African War. Such sepsis was relieved only by virtue of the intensive application of the most developed methods of antisepsis by the medical corps, but amputations were to become once more a common sequel. The South African War, therefore, appears as an ephemeral exhibition of a war fought with what degree

of magnanimity could possibly be exercised on the '*champs de Mars*', and which faded out to let war-mongers reintroduce the ruthlessness of bellicose barbarism.

CONCLUSION

If we bear in mind the thoughts and opinions of the surgeons quoted (MacCormac, Küttner, and others), on the relatively benign nature of the gunshot wounds inflicted in the South African War, then we might find the thought occurring that without the highly organized and developed medical corps attached to the armies of today, the wounds suffered by soldiers would surely raise outcries of protest from even the most hardened of humans, for these wounds exceed in malignity the war-wounds of ancient days when the great Homer could say of Ares, the God of War: 'Of all the Gods who on Olympus dwell I hate thee most; for thou delight'st in nought but strife and war.' (*The Iliad*, translated by Lord Derby).

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