Historical Reflections on the Ethics of Military Medicine

DAVID A. BENNAHUM

The battlefield and wartime conditions often challenge physicians as to their understanding and commitment to the ethics of medicine. In Homer's *Iliad* we read of the first physicians on the battlefield before the walls of Troy, the sons of Asclepius, Machaon, and Podalirius. In his 16th century autobiography, Ambroise Paré recounts the first case of battlefield euthanasia of the wounded and of posttraumatic stress disorder and was renowned for his skill and humanity in the care of his soldiers. Dominique Larrey established the principles of triage of the wounded during the Napoleonic wars. It is out of warfare that the Geneva Convention and the Red Cross emerged. But what does history tell us about the ethical dilemmas of the military physician? Should prisoners receive care equal to that given to one's own troops? Can torture be used to extract information that may save lives? Is it ethical to enslave captured soldiers? Is the doctrine of the double effect valid as originally applied to war? Should a physician's ethics require him or her to speak out against perceived violations? This paper explores these issues from a historical perspective and I seek the voices of soldiers in the field wherever possible.

Warfare in Ancient Egypt, Assyria, and Mesopotamia

In *The Art of Warfare in Biblical Lands* by the late Israeli archeologist Yigael Yadin, we find magnificent illustrations of soldiers, wielding bows, javelins, shields, slings, and clubs and riding chariots into battle. They besiege and assault ships and cities and the victorious Egyptians, Sumerians, Assyrians, Canaanites, and others smash and kill and then bind and humiliate their captives; but we do not find references to physicians or medicine on the battlefield.[1] The closest perhaps is a letter from Milkili, a lieutenant of Akhenaton, the Pharaoh Amenophis IV, husband of Nefertiti and founder of the monotheistic cult of the sun god Aton. In about 1350 BCE from an Egyptian outpost in Palestine, Milkili sent a clay tablet inscribed in cuneiform that was found among the "El Amarna Letters":

> To the King, my Lord
> my Gods [*sic*], my Sun
> thus saith Milkili, thy servant
> the dust of thy feet.
> At the feet of my King, my Lord,
> My Gods, my Sun
> 7 times 7 I fall.

Cambridge Quarterly of Healthcare Ethics (2006), **15**, 345–355. Printed in the USA.
Copyright © 2006 Cambridge University Press 0963-1801/06 $16.00

https://doi.org/10.1017/S0963180106060464 Published online by Cambridge University Press

I have heard what the King, my Lord
Has written to me.
And let the King, my Lord,
Send troops
To his servants, and
Let the King, my Lord,
Send myrrh
For medicine.[2]

Send soldiers he begs, but also send the healing wound balm, the sweet-smelling resin of the Acacia trees of South Arabia, myrrh. If there is to be war, then there will be a need for physicians and medicine.

Troy and Athens

Among the Achaeans before Troy, as described in *The Iliad*, are two warrior healers, Podalirius and Machaon, two of the three sons of Asclepius, the demi-god of medicine and son of Apollo:

And men who settled Tricca, rocky Ithome terraced high
And men who held Oechalia, Oechalian Eurytus' city:
the two sons of Asclepius led their units now,
both skilled healers, Podalirius and Machaon.
In their command sailed forty long black ships.[3]

We also find the brutal cruelty of the battlefield in the death of Hector, son of Priam, King of Troy, killed by Achilles.

Standing over him, so they'd gloat and stab his body
So he (Achiles) triumphed
and now he was bent on outrage, on shaming noble Hector.
Piercing the tendons, ankle to heel behind both feet,
he knotted straps of rawhide through them both,
lashed them to his chariot, left the head to drag
and mounting the car, hoisting the famous arms aboard,
He whipped his team to a run at breakneck on they flew,
Holding nothing back. And a thick cloud of dust rose up
From the man they dragged, his dark hair swirling round
That head so handsome once, all tumbled low in the dust—
Since Zeus had given him over to his enemies now
To be defiled in the land of his own fathers.[4]

Although the harsh reality of the battlefield would exclude an ethic of medicine for many centuries, the Hippocratic Oath (circa 450 BCE) is remarkable in that it establishes an ethical standard that would only find full expression in the future. Today we judge much of the behavior of physicians by this ancient standard. To quote a few passages:

I swear by Apollo the Physician and by Asclepius and by Hygieia
and Panacea and by all the other gods and goddesses,
making them my witnesses, that I will fulfill according to my
ability and judgment this oath and this covenant.

https://doi.org/10.1017/S0963180106060464 Published online by Cambridge University Press

> I will apply dietetic measures for the benefit of the sick according to my ability and judgment; I will keep them from harm and injustice.
>
> Into whatever houses I may enter, I will come for the benefit of the sick, remaining clear of all voluntary injustice and of all other mischief and of sexual deeds upon bodies of females and males, be they free or slave.[5]

Israel and Rome

Although military physicians were incorporated into the Greek and later the Roman armies, little is known about military physicians in Jewish antiquity and almost nothing is mentioned in the Bible. One thinks of Samson, blinded and imprisoned in Gaza, as he gradually regains his strength, breaks his bonds, and pulls down the Philistine temple, killing himself and his people's enemies. In truth the first Jihadist. Or Saul, having lost the battle to the Philistines, asking his sword bearer to hold his sword so that he could fall upon it. The bearer refused, so Saul killed himself so as to avoid humiliation if he were captured by his enemies.

As the great scholar Julius Preuss writes, "During the Jewish War, Rabbi Yochanan ben Zakkai requested and received physicians from Vespasian (69 CE) for Rabbi Zaddok, who was near death from fasting. This might serve as proof that the Jews had no physicians of their own, but relied on Roman physicians, unless one wishes to assume that the Jewish physicians had already all been killed. It is therefore not possible to ascertain where Josephus, who broke his joint at the wrist (fracture of the radius) when he fell off a horse, 'sent for physicians,' since this occurred prior to his capture by the Romans."[6]

Early Christian Europe

The Roman world was efficiently if brutally administered and the fate of war captives was usually slavery. The frontiers of the Roman Empire had numerous military hospitals, and it was customary for Roman military camps to have an infirmary, as was also true for large plantations. Whether captives were treated is unclear. Until the fourth century and the conversion of the Emperor Constantine to Christianity, Christian pacifism had little influence on Roman policy. When Christianity was declared the state religion by Emperor Theodosius I in 380 CE, Christianity had to come to terms with the need to police the cities and to defend the borders of the Empire from recurrent barbarian incursions.[7]

This task was taken up by St. Augustine (354–430 CE). He developed a Christian just war doctrine that, like the pagan *Bellum Justum*, focused mainly on the decision to go to war, with relatively little attention to the ensuing conduct of the war. Indeed Augustine's emphasis on the rectitude of the just belligerent and the sinful character of the unjust belligerent can be interpreted to give the just party a very wide discretion in its war conduct.

Christian just war doctrine is most relevant to the West because it influenced not only moral teaching but also the development of the international law of war. It must be recognized, however, that various forms of just war doctrine developed in other cultures, most notably in Islam. There, too, the emphasis

https://doi.org/10.1017/S0963180106060464 Published online by Cambridge University Press

tended to be on establishing the justice of the war rather than limiting its conduct, although some moral and legal limits did develop.

From these early beginnings gradually emerged two sources of moral and legal guidance about war. One part, dealing with recourse to war, was traditionally known as the *Jus ad Bellum*, or war-decision law. The other part, attempting to regulate and mitigate the conduct of war, was known as the *Jus in bello* or war-conduct law. This division remains in both contemporary just war doctrine and the international law of war.[8]

The Middle Ages

Chivalry brought a modest improvement to the conduct of war, at least for the nobility, if not for the common soldier.

> Another aspect of cultural change deeply affected the behavior and consciousness of the great families and sometimes the upper stratum, at least, of the gentry class. This was the code of chivalry, or courtliness, which was brought to England from France in the reign of Henry II (in the 1160s and '70s) by Queen Eleanor of Aquitaine and hangers-on, including clerics at her court. Chivalry posited more civilized behavior and a gloss of gentility for the high aristocracy. Aristocrats were to dress well, practice good table manners and participate in tournaments. They were to treat each other, even on real battlefields, with at least a modicum of care and reciprocity.[9]

The Crusades contributed another feature: the Hospice or Hospital along the travel routes to Jerusalem built and administered by Knights Hospitalers. Their first hospital was for sick pilgrims in Jerusalem, founded in the 11th century. Fighting first the Saracens, the Hospitalers retreated to Cyprus after the fall of Jerusalem and then Acre and then went on to take over first Rhodes and then Malta. Becoming a formidable sea power in their own right from their base in Malta, they simultaneously fought the Turks while maintaining Hospitals on Malta. They continue their humanitarian work. Today the St. John's Ambulance Corps shares lineage with the Knights of Malta.[10] Thus we see in the Middle Ages, especially during the Crusades, substantive changes to the practice of war. Although the Crusaders ruthlessly exterminated the Jews of the Rhine Valley, sacked Constantinople, and destroyed the Albigensian Civilization of southern France, they also introduced rules of behavior toward noble Christian captives, hospices and hospitals, and a sense that there were customs, if not rules, to the practice of war.

The Renaissance

The technology of the Renaissance utterly changed the battlefield and the face of war. This was compounded by the ferocity of the wars of religion brought on by the Protestant Reformation in its struggle with the Catholic Church.

The Chinese Taoists explored paradoxical substances such as gold, mercury, and sulfur through alchemy in their search for an elixir of immortality. They discovered by the 10th century that saltpeter, which is a salt of nitrogen, niter, when mixed with sulfur, water, and air would combust on being heated. This would lead to "fire drugs" that could be incorporated in fire arrows, explosive

https://doi.org/10.1017/S0963180106060464 Published online by Cambridge University Press

bombs, flaming lances, and eventually cannon. Their discoveries would be brought to the Arabs and eventually the European world through the Mongol conquests of Genghis Khan, his son Ogodei, and his grandson Kublai Khan, after conquest established trade routes in the 13th century linking China and Europe. By the 1300s the Italians had adopted gunpowder, and Florence in 1326 cast and placed cannons in defense of the city. At the battle of Crecy in 1346, Edward III defeated a superior force of French Knights with 1,200 soldiers, 8,000 longbow men and very early metal tubes or *canna*, the Latin word for reed that fired projectiles.[11]

By the 16th century, cannons hurled exploding canister-heated shrapnel while individual soldiers armed with an early rifle called a harquebus marched in regiments against the enemy. The wounds encountered by surgeons on the battlefield were horrendous. This is how the great French Barber Surgeon, Ambroise Paré, newly arrived at the Siege of Turin in 1536 at the age of 26 and on his first campaign, describes his experiences:

> We entered the throng in the City, and passed over the dead bodies, and some that were not yet dead, we heard them cry under our horse feet, which made my heart relent to hear them. And truly I repented to have forsaken Paris to see so pitiful a spectacle. Being in the City, I entered into a stable thinking to lodge my own, and my mans horse, where I found four dead soldiers, and three which were leaning against the wall, their faces totally disfigured, and neither saw nor heard, nor spoke; and their clothes did yet flame with the gunpowder which had burnt them. Beholding them with pity, there happened to come an old soldier, who asked me if there were any possible means to cure them, I told him no: he presently approached to them, and gently cut their throats without choler. Seeing this great cruelty, I told him that he was a wicked man, he answered me that he prayed to God, that whenever he should be in such a case, that he might find some one that would do as much to him, to the end he might not miserable languish.[12]

In effect Paré describes the first case of euthanasia in the medical literature; euthanasia as a consequence of the new technology of warfare. Although Paré was a surgeon and an empirical and practical observer, whose many contributions included the abandonment of boiling oil to cauterize massive wounds and the rediscovery of arterial ligation, it is his humanity to his patients and his ability to give up ineffective treatments and to discover effective new ones that is most striking. In his voyage to Flanders, he spent several months living with and encouraging a young officer to leave his sickbed. This may well be the first case of battle fatigue or Posttraumatic Stress Disorder in the literature and was also a consequence of what war had become in the 16th century. Paré's compassion and competence set a new standard for military physicians. In his famous phase: "I dressed him and God healed him."[13]

In 1531, the Italian mathematician Niccolò Tartaglia was asked by a gunner at what angle cannon should be aimed in order to reach the furthest range. It is he who discovered that the course of a projectile is not in a straight line but rather a curve. Tartaglia's contributions to the infant science of ballistics were considerable. Equally pivotal was the stand he took as the first man of science to wrestle with the moral implications of his work. After amassing a body of knowledge about the use of gunpowder weapons, he was suddenly overtaken

https://doi.org/10.1017/S0963180106060464 Published online by Cambridge University Press

by a sinking feeling. Could a man who understood the naked viciousness of war decently apply his talent to improving a means of mass slaughter?

> It seemed to me that it was blameworthy, shameful and barbarous, Worthy of severe punishment before God and man, to wish to bring to perfection and art damageable to one's neighbor and destructive to the human race and especially to Christian men in the continual wars they wage on one another.[14]

In a fit of remorse, he destroyed all his notes and writings on the subject of ballistics. Teaching on these matters, he felt, was a shipwreck of the soul.

Gunpowder contributed not only to the destruction of medieval castles, but to feudalism as well. With the emergence of the Italian city–states and the rise of the nation state, warfare, greatly intensified by gunpowder, cannons, and guns, became a doleful presence on the European continent. Having achieved bold improvements, the technology of warfare in the 15th and 16th centuries, little further innovation occurred in the 17th and 18th centuries.

> This element of restraint, this reluctance on the part of governments and commanders to pursue innovation, represented a tacit understanding among the European elite that war had become too brutal and too destructive. Other, more practical factors were certainly involved as well. For one thing the cost of guns . . . was extremely expensive. But the notion of a prolonged period of implicit arms control is intriguing. During this period, convention, formality, etiquette, even a theatrical quality all influenced how wars were fought.[15]

The attempt to discover and refine the laws that govern human conduct in war had been first articulated by St. Augustine as noted above and then further refined by St. Thomas Aquinas (1224–1274) among others. Following on Aristotle's assumption that political society was a necessity and a good, St. Thomas argued that society could be defended, and that therefore killing, which was an evil, could be justified if three conditions could be met.

These conditions, constituting war-decision law (*jus ad bellum*), were:

1. Competent authority: War must be waged under the public authority of the political society
2. Just cause: War must be waged either in legitimate self-defense or to correct and punish grievous injuries
3. Right intention: War must only be pursued in order to achieve the ends of the just cause, without hatred or the desire for vengeance, and in order to establish a just and lasting peace.[16]

The ferocity of the 16th and 17th century wars of religion, especially the Thirty Years War (1618–1648), troubled many thoughtful people, contributing to the evolution of a European law of nations. "The most notable contributor to this development was the Dutch jurist Hugo Grotius whose work, *De Jure Belli ac Pacis*, written in 1625 in the midst of the slaughter, is considered the seminal international law text."[17]

The natural law concepts that influenced St. Augustine, St. Thomas Aquinas, and Hugo Grotius and defined just war doctrine, declined in influence with the

https://doi.org/10.1017/S0963180106060464 Published online by Cambridge University Press

rise in power and importance of the nation-state. By the 18th century, war was no longer considered just or unjust, but just a fact of life. "Morality was divorced from law and the law of nations was only concerned with the legal consequences of war."[18]

The Enlightenment

Although war had become highly ritualized with armies of well-dressed soldiers moving in exacting formation and with strict discipline directly into close gunfire, there seemed less concern for the common soldier. Yet the 18th century is the age of reform and revolution, reform of children's education in the writings of Rousseau, of the political process in the works of John Locke, David Hume, and Montesquieu, the writing of the Great Encyclopedia edited by Diderot, the first glimmerings about the injustice of slavery, and, of course, first the American and then the French Revolution. Thomas Paine proclaimed the *Rights of Man* and Mary Wolstonecraft wrote *A Vindication of the Rights of Women*. Voltaire was especially concerned with the barbaric use of torture as a form of punishment and execution. Shocked by the cruel execution of the obviously mentally ill regicide, Damiens, who had attempted to kill Louis XV, and other injustices, Voltaire, in exile from the court, spent 25 years fighting against torture.[19] It is perhaps worse than ironic that torture has become so widespread in our time.

The 19th Century

The 19th century opened with the spectacle of the huge Napoleonic armies triumphing over most of Europe, only to be ultimately decimated in Egypt by disease, in Spain by the British, and in Russia by poor planning and winter. The French armies were fortunate to have the great surgeon Dominique-Jean Larrey (1766–1842).

> Larrey was one of the first to amputate at the hip joint (1803) and . . . performed as many as 200 amputations in 24 hours at (the battle of) Borodino. He was the inventor of the celebrated "flying ambulances" (1792), hundreds of light, mobile wagons that allowed him to "take the hospital to the wounded" as soon as the battle was joined and not after it. Like Ambroïse Paré, he was adored by his comrades in arms for his good *nature*, courage and humanity.[20]

The sufferings of soldiers seemed to increase as the size of armies grew, especially from disease, as in the Crimean war and the American Civil War. In America, the prison camp at Andersonville violated all civilized norms, as did the Camp at Bosque Redondo in the New Mexico Territory in which 8,000 Navajo and Apache were concentrated by Kit Carson between 1863 and 1867. Of the 8,000 that arrived, at least 3,000 died of disease, hunger, and despair.

Technology would drive change in weaponry and warfare in the 19th century. The modernization of the arms industry, particularly in America, led to the production of interchangeable parts, as Samuel Colt adopted Whitney's methods to produce cheap yet effective revolvers. Richard Henry Gatling invented the machine gun. The Gatling gun could fire 200 gunpowder cartridges

https://doi.org/10.1017/S0963180106060464 Published online by Cambridge University Press

a minute. He hoped that it would reduce the size of armies by making each soldier more efficient and effective.

> This idea of a weapon as a labor-saving device was typically American and, despite its apparent naivety, very modern. It was the idea of a man who had never been to war, of the "gentlest and kindliest of men"–so said Gatling's obituary in Scientific American. It was the idea of a man gripped by the pervasive nineteenth-century concept of the ultimate weapon. "By making war more terrible," the magazine noted, "it seemed to him nations would be less willing to resort to arms."[21]

Invented too late to be of much use in the American Civil War, rapid-fire weapons were used in many colonial wars and proved especially effective against the Zulu in Africa. But the machine gun would come truly into its own alongside mustard gas and barbed wire, in the trenches of the First World War.

Soldiers in the 19th century were far more likely to die of disease than of wounds. In fact, it was not until the Japanese-Russian war of 1905 that more men died of their wounds than of disease. Perhaps the only saving grace of the Crimean and Civil Wars was that anesthesia had become available, although it was often in short supply. The suffering of troops was shocking to many observers, although some, like Larrey in the Napoleonic wars, Florence Nightingale in the Crimean War, and even Walt Whitman in his own small way in the Civil War, did much to help the wounded.

Henry Dunant, a Swiss, witnessed the battle of Solferino during the Franco-Austrian war of 1859. His memory of the sick and wounded led him to write *Un Souvenir de Solferino* (*A Memory of Solferino*), published in 1862. He then formed the International Standing Commission for Aid to Wounded Soldiers, which later became the International Committee of the Red Cross. He also recommended an international convention for the protection of the wounded in wartime and persuaded the Swiss government to organize an international conference in 1864. It was here that the first Geneva Convention was written and signed by 12 European nations. The United States ratified the Convention in 1882. There were subsequent revisions in 1906, 1929, 1949, and 1977. The United States has not ratified all of the protocols currently accepted by most nations.[22]

The 20th Century

Arguably the cruelest century in historical memory, rivaling the religious wars of the 16th, the 20th century is a catalog of man's inhumanity to man and is the product, in large part, of ever newer and more deadly technology. Although fading from popular memory, one can still recall the horror of the trenches of the First World War, a horror that depended on machine guns, mustard gas, and barbed wire. The Armenian genocide of 1915 killed one and a half million Armenians, a result that the Turks could not have achieved without trucks and machine guns. And one should not forget Mussolini's invasion of Ethiopia (he attacked the Ethiopians with gas) and the Japanese invasion of China. Japanese physicians would later (in World War II) be accused of medical experimentation on prisoners.

The Holocaust depended for its design and direction on physicians, for it was they who had first experimented with euthanasia of the chronically ill and

https://doi.org/10.1017/S0963180106060464 Published online by Cambridge University Press

mentally deficient from 1939 to 1941, tested lethal gas, designed and constructed the camps, and made the selections at the arrival platforms of who was to work and who was to die. It was also physicians, often eminent scientists and teachers, who led the experimental centers at Dachau, Auschwitz, and other concentration camps.

It remains difficult to understand how German physicians could have tolerated, much less participated in, the Nazi experimental and genocide programs. Robert Jay Lifton, who explored Nazi medical killing, noted the "ordinariness of most Nazi doctors I had interviewed. Neither brilliant nor stupid, neither inherently evil nor particularly ethically sensitive, they were by no means the demonic figures—sadistic, fanatic, lusting to kill—that people have often thought them to be." And further commenting on his study: "There are several dimensions, then, to the work. At its heart is the transformation of the physician, of the medical enterprise itself, from healer to killer." And on its mechanism: "I explore psychological principles drawn directly from Nazi doctors, notably that of "*doubling*": the formation of a second, relatively autonomous self, which enables one to participate in evil."[23]

The Nuremberg trials of the German physicians involved in experiments on human subjects resulted in the 10 principles of the Nuremberg Code. Although extraordinary as a document that protects research subjects, neither the trials nor the Code were about the Holocaust or the treatment and murder of civilians in wartime. What the 20th century has shown the world is the effects of modern war technology on civilians. The battlefield now includes aerial bombardment of cities, invasion of neutral countries, terror tactics such as fire bombing, weapons such as land mines that often outlast a war to maim civilians, especially children, and particularly cruel weapons such as napalm and defoliant herbicides. The memory of Hiroshima and Nagasaki is probably all that has restrained humanity from nuclear war. War is now total, indiscriminate, and includes all of society in the battlefield.

Debating the Physician's Role

So what is the role of the physician in modern warfare? If Aristotle said that a society has the right to protect itself, should physicians be asked to participate in actions that would under other circumstances be considered beyond the pale, such as looking for exploitable weakness in a prisoner's medical records? Some ask why shouldn't defenders of a "just" society use all means to protect its citizens? May a physician participate in torture, even if only to estimate a prisoner's endurance or to revive a prisoner with stimulants if that saves lives?

As Gregg Bloche has documented and Lifton writes, "There is increasing evidence that US Doctors, nurses and medics have been complicit in torture in Iraq, Afghanistan and Guantanamo Bay. Various medical protocols—notably, the World medical Association Declaration of Tokyo in 1975—prohibit medical complicity in torture. Moreover, the Hippocratic Oath declares, 'I will use treatment to help the sick according to my ability and judgment, but never to a view to injury and wrongdoing.'"[24]

Elie Wiesel writes of the complicity of Nazi physicians in the Holocaust and recalls: "Yet inside the concentration camps, among the prisoners, medicine remained a noble profession more or less everywhere, doctors without instruments or medications tried desperately to relieve the suffering and misfortune

https://doi.org/10.1017/S0963180106060464 Published online by Cambridge University Press

of fellow prisoners, sometimes at the price of their own health and lives. . . . In an inhumane universe they remained humane." And in reflecting on the shame of Abu Ghraib he asks, "And how can the recent, shameful torture to which Muslim prisoners were subjected by American soldiers be justified? Shouldn't the prison conditions in Iraq have been condemned by the legal profession and military doctors alike? Am I naïve in believing that medicine is still a noble profession, upholding the highest ethical principles? For the ill, doctors stand for life. And for us hope."[25]

War has been a great teacher of physicians, and most physicians in past centuries and today have behaved ethically, often at risk to their own lives. We have only to remember the great battlefield surgeons Ambröise Paré and Dominique Larrey, renowned for their skill and compassion. Will a continuous urban war of terror as occurred in Algeria in the 1950s and 1960s and that threatens many nations today corrupt the Hippocratic tradition? Only time will tell.

Conclusion

I have tried to capture some of the experiences of war in different periods. Let me conclude with two passages. The first is from the final book, *Ghost Road*, of the trilogy *Regeneration* about the First World War by Pat Barker. The protagonist is a young officer Prior:

> He tried to crawl back beyond the drainage ditches, knowing it was only a matter of time before he was hit again, but the gas was thick here and he couldn't reach his mask. Banal, simple, repetitive thoughts ran round and round his mind. Balls up. Bloody mad. Oh Christ. There was no pain, more a spreading numbness that left his brain clear. He saw Kirk die. He saw (Wilfred) Owen die, his body lifted off the ground by bullets, describing a slow arc in the air as it fell. It seemed to take forever to fall, and Prior's consciousness fluttered down with it. He gazed at his reflection in the water, which broke and reformed and broke again as bullets hit the surface and then, gradually, as the numbness spread, he ceased to see it.[26]

And listen to the final paragraph of Sam Hynes' *The Soldier's Tale*, in response to a writer who argues that if we have not been there we can know nothing of war:

> That's us he is talking about, with our feet beside the fire, eternally barred from understanding by our comforts and our ignorance.
>
> But we must reject that severe exclusion; we must believe that human beings can learn from the testimonies of others (or what are libraries for?). Because wars exist in history, personal narratives of war must add to our historical knowledge, But war exists also in our imagination—like love, as both Graves and Partridge observed; and it is there that we can gain most, altering our understandings of war and bringing war-in-the-head closer to the truth of human experience, by engaging vicariously in other persons' wars.[27]

Limiting the damage of war to both combatants and noncombatants has been a hope of many ordinary individuals, physicians, soldiers, politicians, philos-

https://doi.org/10.1017/S0963180106060464 Published online by Cambridge University Press

ophers, and writers for as long as war has existed. Humans have established elaborate rituals and international rules and laws about war. But, war has become ever more destructive as technology has advanced. Whether men can ever give up war, and I rightly use the word men and not women, is a difficult question. The emerging globalization of the world offers both hope that we can come together as a human family and fear that instead we may destroy the human community. I lean toward the side of hope.

Notes

1. Yadin Y. *The Art of Warfare in Biblical Lands: In the Light of Archeological Study*, Volumes I and II. New York: McGraw-Hill Book Company; 1963.
2. Majno G. *The Healing Hand*. Cambridge, Mass.: Harvard University Press; 1975:120–1.
3. Homer. *The Iliad*. Translated by Robert Fagles. Baltimore, Md: Penguin; 1990:123.
4. See note 3, Homer 1990:554.
5. Edelstein L. Ancient medicine. Reprinted in: Kass, L. *Toward a More Natural Science*. New York: Free Press; 1985:228–9.
6. Preuss J. *Biblical and Talmudic Medicine* (trans. from the German by Fred Rosner). New York: Sanhedrin Press; 1978:15.
7. O'Brien WV, Arend AC. Just war doctrine and the international law of war. In: Bellamy RF, ed. *Military Medical Ethics*, Vol. 1. *Textbooks of Military Medicine*. Washington, DC: Office of the Surgeon General; 2003:223.
8. See note 7, O'Brien, Arend 2003:223–4.
9. Cantor NF. *The Last Knight*. New York: Harper-Perennial; 2004:58–9.
10. *Encyclopedia Britannica*. 15th ed. Volume V. Chicago; 1974:148.
11. Kelly J. *Gunpowder, Alchemy, Bombards and Pyrotechnics*. New York: Basic Books; 2004:1–31.
12. Paré A. *The Apologie and Treatise of 1585*, G Keynes, ed. New York: Dover Press; 1968:21.
13. Malgaigne JF. *Surgery and Ambroise Pare* (trans. WB Hamby). Norman: University of Oklahoma Press; 1965:402.
14. See note 11, Kelly 2004:138–9.
15. See note 11, Kelly 2004:146.
16. William O'Brien. P. 224.
17. See note 11, Kelly 2004:146.
18. See note 7, O'Brien, Arend 2003:224.
19. Davidson I. *Voltaire in Exile*. New York: Grove Press; 2004:46–7.
20. Garrison FH. *An Introduction to the History of Medicine*. Philadelphia: WB Saunders and Co.; 1929:488.
21. See note 11, Kelly 2004:187.
22. Vollmar LC. Military medicine in war: The Geneva Conventions today. In: Beam T, Sparacino LR, eds. *Textbooks of Military Medicine*. Washington, DC: Office of the Surgeon General; 2003:741–743.
23. Lifton RJ. *The Nazi Doctors: Medical Killing and the Psychology of Genocide*. New York: Basic Books; 1986:4–6.
24. Bloche MG, Marks JH. Doctors and interrogators at Guantanamo Bay. *New England Journal of Medicine* 2005;353:6–8; Lifton RJ. Doctors and torture. *New England Journal of Medicine* 2005;351:415.
25. Wiesel E. Without conscience. *New England Journal of Medicine* 2005;325:1513.
26. Barker P. *Ghost Road*. London: Plume; 1995:273.
27. Hynes S. *The Soldiers' Tale: Bearing Witness to Modern War*. New York: Penguin Books; 1997:285.

https://doi.org/10.1017/S0963180106060464 Published online by Cambridge University Press