

*UP TO THEIR ELBOWS IN BLOOD:
THE CRIMEAN WAR AND THE PROFESSIONALIZATION OF MEDICINE*

Fought in the mid-1850s, many scholars regard the Crimean War as largely insignificant. However in reality, the historical contributions of the war are important – particularly those contributions pertaining to medicine. This seemingly “unnecessary” war facilitated the modernization of Western medicine; methods used during and directly after the Crimean War were standard until World War Two. A brief history of the war reveals medical data that constitutes the bulk of my interpretation. The war’s specific medical achievements are highlighted throughout the essay. The findings in this paper are by no means conclusive, but they exhibit that it is important to look beyond Florence Nightingale, the war’s most famous and studied individual, and gaze upon the larger trends of medicine. Her story is covered in some detail in this paper, but she is not the sole source of innovation from this rather disastrous war. The professionalization of Western medicine stands out as one of the great accomplishments of this war, despite scholars viewing the war as useless.

Key words: cholera epidemics, battlefield surgery, Florence Nightingale, Nikolay Pirogov, William Howard Russell, medical modernization

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“It is good for us to be here”¹

On the night of November 14, 1854, an exhausted woman penned a letter to a distant reader. By candlelight she scrawled in hurried script about the “appalling horror” surrounding her. “Steeped up to [their] necks in blood,” she and her helpers worked tirelessly upon men who “bear pain and mutilation with unshrinking heroism, and die or are cut up without a complaint.” Absences of brooms, soap, and towels only complicated the dire state of affairs. The recipient of the letter possessed no real understanding of the state of her work. But, how could he? With amputated limbs strewn about and corpses rapidly removed, how could anyone fully comprehend the gravitas of her grueling situation? Despite the carnage, the greatly fatigued writer ended her letter with determination and optimism; “this is only the beginning of things, we are still expecting the assault.”² Undeterred by the taxing situation she found herself in, Florence Nightingale fought to make positive changes to medical services.

And that was only the beginning of her sentence to the bloody, murky hospitals of the Crimean War. She would spend just under two years on the Anatolian and Crimean Peninsulas engaged in the much-praised act of nursing; she reduced the mortality rate from 44 percent in February 1855 to 2.2 percent six months later.³ By the end of the war, she instituted cleanliness and order and called for statistics that tracked patients and supplies. As a counterpart to Nightingale, the Russian surgeon Nikolay Pirogov instituted widespread use of anesthesia during the Siege of Sevastopol that became the standard method for surgeons, civilian and military, until World War Two.⁴ The man labored almost to the point of death, performing over 5,000 amputations in nine months, doing his part to alleviate the

¹ Florence Nightingale, *Letters from the Crimea, 1854-1856*, edited by Sue Goldie (Manchester: Mandolin, 1997), 37.

² Nightingale, *Letters*, 39.

³ Robert Lifford Valentine French Blake, *The Crimean War* (Hamden: Archon Books, 1972), 111; Edward Tyas Cook, *The Life of Florence Nightingale, Volume 1* (London: Macmillan and Co., Ltd., 1913), 178.

⁴ I. F. Hendriks et al., “Nikolay Ivanovich Pirogov: a surgeon’s contribution to military and civilian anaesthesia,” *Anaesthesia*, vol. 70, no. 2 (Feb. 2015), accessed 18 March 2017, <http://dx.doi.org/10.1111/anae.12916/full>.

widespread terror that befell Sevastopol.⁵ These perceived supernatural individuals revolutionized European and, on a greater scale, Western medical practices. These two represent only a small glimpse at the larger realization that the Crimean War facilitated the modernization and professionalization of medicine, the results readily seen in the American Civil War and World War One.

This paper explores the interconnected worlds of battle and illness, particularly cholera and surgery, across three pivotal moments during the war. An examination of the British, French, and Ottoman encampment at Varna in 1854, the battles of Alma, Balaklava, and Inkerman, and the Siege of Sevastopol constitute the temporal landscape on which I examine battlefield surgery. First, I analyze the Allied encampment at Varna from June to September 1854 to highlight the role cholera played in the invasion of the Crimean Peninsula. Second, I examine the battles of Alma, Balaklava, and Inkerman in autumn 1854 to show their relevance to Nightingale's hospital struggle and the Allied force's administrative mismanagement. Finally, I present the Siege of Sevastopol, which brought Pirogov's story to light and showcased the gradual improvement of Allied medical care.

War was, and still is, a messy thing. Epidemics and battlefield surgery only exacerbated the complexities in an already tumultuous time. However, under these stresses, the Crimean War pioneered the development of professional medicine that heavily impacted Western treatment. This war gave impetus as the foundation of the International Red Cross as well as the proliferation of anaesthesia. The Russian annexation of Crimea in 2014 stands as a reminder that this little peninsula has been in the spotlight more than once and continues to contribute to global geopolitical events.⁶ The events surrounding the annexation continue drive global politics, much like the war dominated the international scene 160 years ago.

⁵ Hendricks, "Nikolay"; Sir Edward Bruce Hamley, *The War in the Crimea* (London: Seeley, 1891), 274-275.

⁶ For more information on the 2014 annexation, see Will Englund, "Kremlin says Crimea is now officially part of Russia, after treaty signing, Putin speech," *Washington Post*, 18 March 2014, accessed 7 April 2017, https://www.washingtonpost.com/world/russias-putin-prepares-to-annex-crimea/2014/03/18/933183b2-654e-45ce-920e-4d18c0ffec73_story.html?utm_term=.5f7946b4a7f8.

A Quick Note on Sources

By the nature of being a mid-nineteenth century conflict, accurate and reliable sources are not overflowing. I tease out the Crimean War's medical achievements with an examination of diaries, letters, newspaper accounts, medical journals, government reports, and histories. Unfortunately, most of those said sources are British in nature. Texts from the British Empire were the most numerous and accessible with the archives and resources available to me. However, I recognize the bias that is inherent to using mostly British sources. For this reason, I rely upon secondary sources containing translated texts of French, Ottoman, and Russian reports and narratives when applicable.

Cholera: "We had an unseen enemy in the midst of us"⁷

Almost since its culmination, the Crimean War has not been regarded in a favorable light. Most historians have seen the war was unnecessary, trivial, and aimless.⁸ Even soldiers at the time thought they were "going out to defend a rotten cause!"⁹ One reason for this sentiment is the cholera-induced debacle of the Allied encampment at Varna on the shores of modern-day Bulgaria (map 1, Appendix). There, 50,000 British and French massed to protect their Ottoman allies' eastern side from the Russians in Wallachia. As the 100,000-strong Austrian army gathered near Moldavia's western border, the Russian forces withdrew in late July 1854.¹⁰ Historian R.L.V. French Blake argued that "there seemed little reason why peace should not follow."¹¹ Indeed, the removal of the immediate threat of Russian invasion was celebrated as a political victory for Britain and France and a military victory for the

⁷ Timothy Gowing, *Voice from the Ranks: A Personal Narrative of the Crimean Campaign*, edited by Kenneth Fenwick (London: Folio Society, 1954), 8.

⁸ Alexis Troubetzkoy, *A Brief History of the Crimean War: The Causes and Consequences of a Medieval Conflict Fought in a Modern Age* (New York: Carroll & Graf, 2006), 32, 51; Peter Gibbs, *Crimean Blunder: The Story of War with Russia a Hundred Years Ago* (New York: Holt, Rinehart & Winston, 1960), 33-34; Brison Gooch, "A Century of Historiography on the Origins of the Crimean War," *American Historical Review*, vol. 62, no. 1 (Oct. 1956), 33; Guy Arnold, *Historical Dictionary of the Crimean War* (Lanham: Scarecrow Press, 2002), ix.

⁹ Gowing, *Voice from the Ranks*, 6.

¹⁰ Orlando Figes, *The Crimean War: A History* (New York: Metropolitan Books, 2010), 184, 189.

¹¹ Blake, *The Crimean War*, 38.

Ottomans. There was just one problem, however: cholera. The disease, caused by a bacterial infection and passed through contaminated water, killed its victims at an astonishing rate as a result of dehydration from loss of bodily fluids through excessive defecation and vomiting.¹²

In time between Russia's withdrawal from the Danubian principalities in late July 1854 and the Allied embarkation in early September, around 10,000 men were stricken by the horrid disease, averaging around sixty deaths per day among the French.¹³ Some historians argued the Allied invasion of the Crimean Peninsula was a direct result of a desire to leave behind Varna and the raging epidemic.¹⁴ It can also be that death apart from battle was inglorious and invasion served as a way to regain glory. Why were the British and French anxious to leave? After all, as the *Times* reporter William Howard Russell wrote:

Whoever gazed on the rich meadows, stretching for long miles away, and bordered by heights on which dense forests struggled all but in vain to pierce the masses of wild vine, clematis, dwarf acacia and many coloured brushwoods, might well have imagined that no English glade or hill-top could well be healthier or better suited for the residence of man.¹⁵

The response was not long in coming though:

But these meadows nurtured the fever, the ague, dysentery, and pestilence in their bosom – the lake and the stream exhaled death, and at night fat unctuous vapours rose fold after fold from the valleys and crept up in the dark and stole into the tent of the sleeper and wrapped him in their deadly embrace.¹⁶

Despite the beautiful scenery that made hearts swoon, death dominated the landscape without abandon. Unfortunately for England, the British had experience with the raging disease. Cholera epidemics ravaged London in the 1830s through the 1850s. In fact, Dr. John Snow's now famous

¹² For more information on cholera, see the World Health Organization's (<http://www.who.int/mediacentre/factsheets/fs107/en/>) and the Center for Disease Control and Prevention's (<https://www.cdc.gov/cholera/general/>) websites.

¹³ Trevor Royle, *Crimea: The Great Crimean War, 1854-1856* (New York: St. Martin's Press, 2000), 177; George Palmer Evelyn, *A Diary of the Crimea*, edited by Cyril Falls (London: Duckworth, 1954), 71.

¹⁴ Gibbs, *Crimean Blunder*, 101; Sir William Howard Russell, *Russell's Dispatches from the Crimea, 1854-1856*, edited by Nicolas Bentley (New York: Hill and Wang, 1967), 57; Troubetzkoy, *A Brief History*, 203.

¹⁵ Russell, *Dispatches*, 56.

¹⁶ *Ibid.*

experiment in a London neighborhood in the summer of 1854 produced protocols for the world-over for water sanitation.¹⁷ The 1854 cholera campaign originated in southeast Europe, meaning the Allied forces positioned themselves in a prime position for a grotesque and rancid demise.¹⁸

The casualties started in the build up to Varna at Gallipoli and aboard ships. Allied leaders thought the wave of diarrhea was merely caused by rotten fruit. Their minds changed after symptoms of severe vomiting, cramps, and high fevers appeared and greater numbers began dying.¹⁹ With the origin or cause unknown, the blame fell upon miasmas (acrid, infected, or diseased air) from the lakes (hence Russell's mentioning of them), excessive drinking, or consumption of soft fruit.²⁰ And with men dying at an alarming rate, burials occurred sans coffins – “there are no means to find wood enough to make them.”²¹ The deceased were laid to rest in mass graves wrapped in their blankets, only to be dug up later by the Ottomans as warm clothing became necessary during the ensuing winters.²² At sea, the surviving sailors sunk the dead with lead weights, only to rise once more to the surface, swollen in their blankets or hammocks.²³

Crippled by the disease, the Allied forces decided to wait out the epidemic. The British forces were “but ghosts of the splendid battalions who had crossed Waterloo Bridge but six months before although in the meantime they had not even been in contact with the enemy” and their soldiers grappled with boredom and confusion.²⁴ Morale died along with men. Losses by the British numbered

¹⁷ For more information, see Steven Johnson, *The Ghost Map: The Story of London's Most Terrifying Epidemic and How It Changed Science, Cities, and the Modern World* (New York: Riverhead Books, 2006).

¹⁸ Figes, *The Crimean War*, 191.

¹⁹ Troubetzkoy, 200.

²⁰ Figes, *The Crimean War*, 191.

²¹ Evelyn, *A Diary*, 72.

²² Figes, *The Crimean War*, 191.

²³ Hamley, *The War in the Crimea*, 29; decomposing gases, such as hydrogen sulfide, carbon dioxide, methane, and nitrogen, are released once a person dies as the body breaks itself down. These gases cause the bodies to swell like balloons and take on a blueish hue. This is a result of the lack of fluid in the body. Hence the colloquial name “the blue death” is rightfully attributed to the disease.

²⁴ Gibbs, *Crimean Blunder*, 101; Evelyn, *A Diary*, 72.

only around 700, with another 1,900 relegated to hospitals.²⁵ It was the French who suffered the most – from early July to early September, a space of only two months, at least 5,000 men perished due to cholera, an average of 83 men per day.²⁶ In total, between 8,000 and 10,000 Frenchmen succumbed to disease while 12,000 to 15,000 languished in hospitals.²⁷ Fighting had not yet begun in the summer of 1854 and the deaths therefore seemed to be a waste of manpower and resources. More importantly, more men died of cholera during the war than any other cause.²⁸ This greatly challenged the Allied medical structure and taxed public approval of the war. A change in the management of disease became apparent very early on. However the appeals for innovation were unmet until later in the war.

When the decision to leave the western shores of the Black Sea was made in early September 1854, the men were absolutely overjoyed. Morale began to creep back up as the armada sailed towards their landing point at Eupatoria.²⁹ Cholera continued to plague the armies throughout the war, but nothing compared to that first summer in Varna. Though the soldiers who were left survived the worst of the cholera epidemic of the nineteenth century, more death lay ahead of them. Another 100,000 British and French soldiers were to die by the Treaty of Paris in March 1856.

Battle: “Theirs not to reason why; Theirs but to do and die”³⁰

The Allied forces landed on the Crimean Peninsula on September 14, 1854, 70 miles north of their target, Sevastopol. The first major battle between the Allies and Russia took place six days later at the Alma River. 35,000 Russian soldiers defended the hills with over 100 large cannons against the

²⁵ Arnold, *Historical Dictionary*, 44.

²⁶ Ibid.

²⁷ Ibid.

²⁸ Arnold, *Historical Dictionary*, 45; Matthew Smallman-Raynor and Andrew Cliff, “The Geographical Spread of Cholera in the Crimean War: Epidemic Transmission in the Camp Systems of the British Army of the East, 1854-55,” *Journal of Historical Geography*, Vol. 30 (2004), accessed 7 March 2017, <http://www.sciencedirect.com/science/article/pii/S0305748802000841>.

²⁹ Russell, *Dispatches*, 58-59, 61.

³⁰ Alfred Lord Tennyson, “The Charge of the Light Brigade,” *The Poetry Foundation*, accessed 9 March 2017, <https://www.poetryfoundation.org/poems-and-poets/poems/detail/45319>.

assault of 60,000 Allied forces.³¹ The aim of Russian commander Alexander Menshikov was to hold the allies off while the defenses at Sevastopol could be reinforced; there was also a hope that, if the conflict could be delayed long enough, the infamous Russian winter would push the allies back as it had done to Napoléon in 1812.³² It came as a surprise then, to the Russian tactician that instead of holding the ridge above the river for three weeks, it was held for three hours, their army being driven “entirely off the ground.”³³ During the Allied naval bombardment and bayonet charges, over 5,000 Russians, 2,000 British, and 1,600 French perished on the battlefield or later due to wounds.³⁴

Russell recorded the mass burial of soldiers in pits, nameless and gruesome. British and French workers searched the battlefield with stretchers looking for those who “were yet alive.” If fallen ones were “food for the worms,” they were added to “the yawning pits which lay with insatiable mouths gaping on the hill side.”³⁵ One soldier called it a “very mournful and ghastly sight” for many were “literally cut to pieces.”³⁶ It took two days for all the dead to be buried. In that time, cholera continued to decimate the camps; another soldier complained that the groans of those suffering greatly disturbed the stillness of the night.³⁷ The remaining healthy men collected the wounded and sick British, French, and left-behind Russian soldiers and placed them on ships to Scutari, the location of the Allied hospitals. The 300-plus mile journey claimed even more lives. Still they pressed on.

A month after Alma, 23,000 Russian men assaulted the 20,000 Allied soldiers positioned near Balaklava, southeast of Sevastopol. The infamous battle spawned the legend of the Charge of the Light Brigade.³⁸ The battle itself passed without deciding much – the British were not dislodged from their

³¹ Figes, *The Crimean War*, 206.

³² Royle, *Crimea*, 217; Figes, *The Crimean War*, 206.

³³ Evelyn, *A Diary*, 84.

³⁴ Troubetzkoy, *A Brief History*, 240; Figes, *The Crimean War*, 218.

³⁵ Russell, *Dispatches*, 89.

³⁶ Gowing, *A Voice from the Ranks*, 22.

³⁷ Evelyn, *A Diary*, 85.

³⁸ Troubetzkoy, *A Brief History*, 256.

siege position and the Russians did not relieve Sevastopol in any meaningful way. However the actions of the Light Brigade stand out in this battle. Tactical blunders and botched communications led the 600 cavalymen into a direct assault upon the Russian defenses; 113 men and 397 horses died and 134 men wounded.³⁹ The charge, though it ultimately allowed the Heavy Brigade to rout the Russian army, stands as an example of the ordinary soldier sacrificed by the callousness of the commanders during a hopeless and purposeless action.⁴⁰ Blame passed from commander to commander as everyone tried to understand the senseless slaughter.⁴¹ Perhaps this is why Lord Tennyson chose to memorialize the battle in his poem, “The Charge of the Light Brigade,” two months after its completion. The heroic actions of the brigade achieved no tangible reward and the witnesses had to rationalize the outcome.⁴²

The growing number of wounded in the hospitals of Scutari was one significant result of the battles. There was yet one more interaction that would serve to flood the wards of that infamous site. The battle of Inkerman, only ten days after Balaklava, was by far the bloodiest battle of the Crimean War. 30,000 Russians attacked the eastern flanks of the Allied siege once more. During the four-hour “sanguinary” and violent bayonet combat in extremely foggy conditions, 17,500 men were killed or wounded.⁴³ Russian casualties numbered almost 12,000, some of whom were not found for months.⁴⁴ One survivor wondered how anyone was even alive, as he was “surprised and disgusted” at the brutal aftermath.⁴⁵ Mangled and mutilated dead were packed tightly to fill trenches that stretched for a mile and a half.⁴⁶ Another writer questioned “in the name of reason and humanity, we ask, where is the ‘glory’ of all this?”⁴⁷ From the close Allied victory, “the fate of Sebastopol was already decided... the

³⁹ Royle, *Crimea*, 274; Blake, *The Crimean War*, 81.

⁴⁰ Gibbs, *Crimean Blunder*, 217, 222.

⁴¹ Blake, *The Crimean War*, 80.

⁴² Tennyson, “The Charge of the Light Brigade.”

⁴³ Troubetzkoy, 269.

⁴⁴ Figes, *The Crimean War*, 268, 270.

⁴⁵ John A. Bostock, *Letters from India and the Crimea* (London: George Bell and Sons, 1896), 209.

⁴⁶ Russell, *Dispatches*, 138.

⁴⁷ “The Eastern War: Some Sketches of its Character and Prospects,” *Advocate of Peace (1847-1884)*, Vol. 11, No. 13 (Jan. 1855), accessed 4 Feb. 2017, <http://www.jstor.org/stable/27891354>, 196.

Russians could not beat us in battle, we were sure to win... We could do nothing else but keep our hold."⁴⁸ Inkerman was the last full-scale battle to occur in the war – skirmishes and siege filled the last year and a half of the war.

Enter the angels.

During the bloody throes of Inkerman, Florence Nightingale and her thirty-eight fellow volunteers arrived at the hospitals of Scutari. Before the war, Nightingale served as a superintendent of London hospital. In mid-October 1854, she wrote to the Secretary at War Sidney Herbert's wife to inquire if she could be included in the shipment of philanthropic nurses to the Scutari hospital.⁴⁹ If Nightingale chose to accept, Herbert replied she would lead an official, government-sponsored envoy.⁵⁰ She did. The hospital, a common topic of the *London Times* for several weeks, was described as a crowded building where men waited hours, sometimes days, to be treated because of the insufficient number of surgeons and total lack of nurses and supplies.⁵¹ Scutari celebrated the arrival of Nightingale and her crew. Immediately, the group sprang into action to clean and organize the dank building.⁵² It took time for their impact to be fully recognized. This is due mostly to the influx of wounded from the battle of Inkerman that congested the hospital.

The Russians too had their miracle worker. Nikolay Pirogov entered Sevastopol in mid-December, a month after Nightingale made her appearance at the British hospital. Pirogov was a military surgeon from Moscow and a veteran of the 1847 Caucasian War. During that war, he dabbled with anaesthesia in the form of ether to relieve soldiers during surgery. Pirogov ventured to the Crimean theatre at the tsar's behest.⁵³ Like Nightingale, he was "outraged" by the chaos and inhuman treatment

⁴⁸ Hamley, *The War in the Crimea*, 163.

⁴⁹ Nightingale, *Letters from the Crimea*, 1-2.

⁵⁰ Edward Tyas Cook, *The Life of Florence Nightingale, Volume 1* (London: Macmillan and Co., Ltd., 1913), 152-154.

⁵¹ "Crimea," *The Times*, 12 Oct. 1854, 6-7.

⁵² Cook, *The Life of Florence Nightingale*, 183.

⁵³ Hendricks, "Nikolay Ivanovich Pirogov," 219-224.

of the almost 12,000 sick and wounded.⁵⁴ Some amputees laid in their own blood for weeks, wounds held together with rags cut from the clothes they wore.⁵⁵ In these horrid and troublesome conditions, he set out to relieve some of the anguish that afflicted Sevastopol's civilians and defenders. He also made use of nurses to aid in surgical operations and attempted to mandate cleanliness.⁵⁶

Understandably, he was never able to find reprieve or rest because of the tremendous work that demanded his attention. The Siege of Sevastopol caused further destruction until Russian evacuation in September 1855.

Siege: "The attention of the whole world was directed thither"⁵⁷

Following the battle at the Alma River, the Allied forces began the siege of Sevastopol in September 1854 – a battle that endured for a whole year (map 2, Appendix). During this year, six major bombardments cascaded down upon the city which allowed the Allies to slowly creep their way forward towards the earthen defenses of Sevastopol. "It must have been something like a hell upon earth," a soldier wrote, "each side trying which could pound the longest or hit the hardest."⁵⁸ Russians attempts to relieve the city largely failed. Allied expeditions in early summer 1855 to Kertch, east of Sevastopol and the key to the Sea of Azov, drew Russian forces away from the city and allegedly shortened the siege by weeks.⁵⁹ From March to August 1855, Russian casualties totaled 81,000 in and around Sevastopol.⁶⁰ Allied advances frightened the Russians enough to give up the city on September 11, blowing up ammunition depots and sinking their ships in the harbor as they retreated.⁶¹ The Allies

⁵⁴ Figes, *The Crimean War*, 296.

⁵⁵ *Ibid.*, 296-297.

⁵⁶ Hendricks, "Nikolay Ivanovich Pirogov," 225.

⁵⁷ Gowing, *A Voice from the Ranks*, 104.

⁵⁸ *Ibid.*, 107.

⁵⁹ Hamley, *The War in the Crimea*, 125.

⁶⁰ *Ibid.*, 272.

⁶¹ Russell, *Dispatches*, 260-261.

captured Sevastopol and held their ground. Weary and unsure of what to do next, the soldiers held the city until the Treaty of Paris returned the city to Russia in 1856.

Although the very brutal and costly war commands the attention of many scholars, the siege drama of war significantly obscured developments in battlefield medicine. The Allies' improvements in administration and medical care during the year-long siege established a platform upon which the future care of soldiers was built. At the start of the siege, transportation to and from the frontlines was absolutely abysmal. With no formal road or wheeled transport, supplies were carried by Turkish soldiers from the French port at Kamiesh and the British port at Balaklava to the front. Contemporary scholars ridiculed the transportation problem.⁶²

The weather also did not help the uphill struggle. The "black as ink" skies drenched Crimea and rendered the improvised trails nearly impassable with mud, which resulted in ports filled to the brim with needed supplies while the soldiers starved only miles away.⁶³ A massive storm on November 14, 1854 carried away morale as well as provisions – sixteen ships sank with over 40,000 warm winter uniforms.⁶⁴ A soldier recorded what transpired afterwards:

The amount of damage suffered by the troops and shipping may prove sufficient to be fatal to the expedition. Almost all the tents in this division, and I suppose throughout the Army, were blown down and partly destroyed; their wretched occupants having to stand shivering and exposed to the wintry storm... never was such a picture of desolation and misery... The amount of destruction to the shipping in and outside the harbour exceeds my worst anticipation... we are now almost destitute of provisions. The want of the supply of winter clothing will also be felt severely by our overworked and half-starved soldiers, who have had nothing but a little biscuit and an occasional allowance of grog for two days.⁶⁵

⁶² "The Week," *The British Medical Journal*, Vol. 1, No. 56 (23 Jan. 1858), accessed 4 Feb. 2017, <http://www.jstor.org/stable/25192005>, 74.

⁶³ Russell, *Dispatches*, 151-152; Gowing, *A Voice from the Ranks*, 66.

⁶⁴ Blake, *The Crimean War*, 110; Royle, *Crimea*, 297.

⁶⁵ Evelyn, *A Diary of the Crimea*, 109-110.

The storm set the tone for the rest of the winter. Men worked for hours in the trenches in ankle-deep water trying to keep themselves warm under the darkness of night.⁶⁶ Exhausted, the soldiers found no dry clothes or warm food awaiting them. These conditions made them extremely susceptible to cholera and other illnesses, their immune systems unable to keep up with their hard work. Russell quipped that if central depots had been established before the bad weather, most, if not all, suffering could have been averted.⁶⁷ By January, only 11,000 able-bodied men constituted the British fighting force; almost 14,000 laid sick or wounded in various camps or at Scutari by March.⁶⁸ These dismal numbers relegated the British army into a position secondary to the French force, causing their inability to fully contribute to the siege effort, crippled by disease and wounds.

The scene at Scutari was frantic. Almost 9,000 men died in the hospitals between December 1854 and February 1855.⁶⁹ Nightingale's nurses fervently tried to clean and organize, but a lack of funds prevented them from accomplishing their ambitious goals. Nightingale furiously penned a letter on January 8th demanding money and supplies or else matters "will be worse two months hence than they are now."⁷⁰ In response, the British government furnished money and supplies, slowly improving the situation. A letter from February 19th hesitantly hinted at optimism: "In the first 8 days of February we buried 506 from the Hospitals of Scutari alone, on the 9th day 72 – during the last twenty-four hours we have lost only ten."⁷¹ By then, the soldiers regarded Nightingale as a God-sent savior whom they lovingly called "the Lady with the Lamp" because she broke the wards' darkness with a single candle to spread words of Christian encouragement.⁷² In March she hoped that "this great tragedy must now, one would

⁶⁶ Gowing, *A Voice from the Ranks*, 26-27; Blake, *The Crimean War*, 111.

⁶⁷ Russell, *Dispatches*, 157.

⁶⁸ Figes, *The Crimean War*, 290; Russell, *Dispatches*, 157; Hamley, *The War in the Crimea*, 175.

⁶⁹ Hamley, *The War in the Crimea*, 182.

⁷⁰ Nightingale, *Letters*, 70-76.

⁷¹ *Ibid.*, 93.

⁷² Figes, *The Crimean War*, 303.

think, be near its close.”⁷³ However, in that same month, a British-appointed sanitary commission discovered the hospital had been built on top of a cesspool with sewage leaking into the drinking water.⁷⁴ That rather unfortunate fact explained the continuance of a high mortality rate. In Nightingale’s defense, only 2,750 bodies populated the hospitals in Scutari by the first of May.⁷⁵ Despite her numerous struggles, Nightingale created equally numerous positive changes to the medical care of the dear soldiers.

She also instituted organizational and administrative reforms that greatly facilitated efficient treatment.⁷⁶ The establishment of a relatively new technology, the railway, alleviated pressure on medical and transportation problems once completed in March 1855.⁷⁷ A solid connection between Balaklava and the British headquarters assured that the debacle of 1854-1855 winter would not happen again. In fact, once supplies came into soldiers’ hands, morale rose and officers noticed an improvement in the physical and mental condition of the men.⁷⁸ Newspapers celebrated such improvements with marked enthusiasm.⁷⁹ The capture of Sevastopol in September 1855 proved supplies were readily available which also led to improvements in cleanliness and organization in the hospitals. Nightingale spent less time in Scutari after the fall of the besieged city, taking her services to the British port of Balaklava.⁸⁰ Readily seen, her effectiveness received praise when a correspondent for the *London Times* dryly noted in September 1855 “I have much satisfaction in stating that the sanitary condition of the army is satisfactory.”⁸¹ Nightingale did not return home until August 1856 when her nurses left and the

⁷³ Nightingale, *Letters from the Crimea*, 103.

⁷⁴ Figes, *The Crimean War*, 304.

⁷⁵ Nightingale, *Letters from the Crimea*, 115.

⁷⁶ Susan-Mary Grant, “New Light on the Lady with the Lamp,” *History Today*, Vol. 52, No. 9 (Sept. 2002), accessed 14 March 2017, <http://search.proquest.com.er.lib.k-state.edu/docview/202814811>, 16.

⁷⁷ Troubetzkoy, *A Brief History*, 37.

⁷⁸ Royle, *Crimea*, 341-342.

⁷⁹ “News from the Camp,” *Examiner*, 15 Dec. 1855, *British Library Newspapers*, accessed 7 March 2017, <http://tinyurl.galegroup.com/tinyurl/4VCfT5>, 791.

⁸⁰ Cook, *The Life of Florence Nightingale*, 283.

⁸¹ “The War in the Crimea,” *Times*, 9 Oct. 1855, *The Times Digital Archive*, accessed 7 March 2017, <http://tinyurl.galegroup.com/tinyurl/4VCiS8>, 9.

supplies she fought so hard to secure were shipped back to England. Thus her wartime work concluded.⁸²

Her Russian counterpart, Pirogov also fought tooth and nail to help his wounded soldiers. The siege brought thousands under his care, and his use of anaesthesia earned him reverence from the defenders. One group optimistically brought a beheaded comrade to the hospital in the hope that Pirogov would somehow reattach the head.⁸³ Whereas Nightingale found a way to improve the state of the hospitals, Pirogov could not reproduce her results inside Sevastopol. In his hospitals, half-an-inch of coagulated blood coated the floors while severed limbs lay heaped in tubs.⁸⁴ The wounded lay outside on blood-soaked stretchers and added their cries to the sound of artillery that was almost ever-present. It was only Pirogov's calm and steady hand that preserved Russian confidence in medical care.⁸⁵ A Scottish professor unknowingly praised Pirogov when he declared "the man who can coolly take up artery under fire, requires at least as much courage as he who... leads his battalion."⁸⁶ Pirogov instituted an organizational, almost factory like, system that separated the wounded based on severity and, in doing so, was able to save more soldiers. Leo Tolstoy was present in Sevastopol during some of the siege and chronicled Pirogov's work:

No sooner have you opened the door than you are assailed without warning by the sight and smell of about forty or fifty amputees... There you will see surgeons with pale, gloomy physiognomies, their arms soaked in blood up to the elbows, deep in concentration over a bed on which a wounded man is lying under the influence of chloroform... The surgeons are going about the repugnant but beneficial task of amputation.

Tolstoy continued with gruesome detail, choosing to scrutinize the general idea of war with bloody, incriminating evidence.

⁸² Cook, *The Life of Florence Nightingale*, 299-304.

⁸³ Hendricks, "Nikolay Ivanovich Pirogov," 225.

⁸⁴ Hamley, *The War in the Crimea*, 213.

⁸⁵ Royle, *Crimea*, 260.

⁸⁶ "Army Medical Service," *The British Medical Journal*, Vol. 2 No. 190 (20 Aug. 1864), accessed 4 Feb. 2017, <http://www.jstor.org/stable/25203939>, 223.

You will see the sharp, curved knife enter the white, healthy body... You will see the apothecary assistant fling the severed arm into a corner... You will see fearsome sights that will shake you to the roots of your being; you will see war not as a beautiful, orderly, and gleaming formation... but war in its authentic expression – as blood, suffering, and death.⁸⁷

Pirogov successfully combated infection despite messy and unsanitary conditions, bringing survival rate from arm amputations up to sixty-five percent and survival from thigh amputations up to 25 percent.⁸⁸

Both Pirogov and Nightingale believed contaminated vapors caused infection. Despite this, their practice of separating patients based on trauma and sickness effectively decreased death in their hospitals, even if they were not aware of the real causes of infection.⁸⁹

Statistics: “And there remained the frame-work grim, A skeleton alone”⁹⁰

On a grand scale, casualties from the Crimean war provoke and inspire shock at the staggering number of dead soldiers from disease. French forces totaled over 309,000 during the war. Of that, 95,615 died, or a thirty percent mortality rate. By comparison, only 10,240 died at the hands of the Russians and approximately 10,000 more died later due to battle wounds. Over 75,000 succumbed to disease during the war. It is worth reiterating that over seventy-eight percent perished solely due to disease. Cholera carried away most of the dead, with about one-third claimed by scurvy.⁹¹ Scurvy is a deficiency disease brought about from a lack of vitamin C in one’s diet. Common symptoms include lethargy, bleeding gums, dark blotches on the skin, pain upon movement, fever, and death, if left unaddressed.⁹² Staggeringly, cholera killed over 8,000 French soldiers before any Allied invasion of the

⁸⁷ Figes, *The Crimean War*, 297-298.

⁸⁸ *Ibid.*, 298-299.

⁸⁹ *Ibid.*, 304; both medical professionals held ideas that were common for the time. Germ theory does not become pertinent to medicine until the 1880s.

⁹⁰ “Crimean War: Loss of Life in Different Ways,” *Advocate of Peace (1847-1884)*, Vol. 1, No. 7 (July 1869), accessed 4 Feb. 2017, <http://www.jstor.org/stable/27904399>, 107.

⁹¹ *Ibid.*, 106.

⁹² For more information on scurvy, see the National Health Service’s website, (<http://www.nhs.uk/Conditions/Scurvy/Pages/Introduction.aspx>). Scurvy, thankfully, is a rare disease today.

Crimea. It is no wonder then that some scholars contend the losses were disproportionate to the victories.⁹³

However, it was not just the French who perished from disease. 15,724 of the total 19,578 British dead were the cause of disease, a staggering eighty percent! Russians killed 1,933, while another 1,921 died of wounds. In addition, the military discharged 2,873 men as incapacitated due to disease, wounds, or injuries. Total British casualties reached 22,187.⁹⁴ Piedmont-Sardinia formally entered the war in January 1855 and sent 12,000 men to reinforce British and French forces. 2,194 total Sardinian soldiers died, or an eighteen percent mortality rate. Seventy-eight percent of the dead or 1,720 soldiers succumbed to disease.⁹⁵ While Turkish sources are unreliable, it is estimated disease killed 25,000 of the 35,000 total dead in the Danubian theatre, or a seventy-one percent rate.⁹⁶ Total Ottoman losses fall somewhere between 95,000 and 175,000. The Russians lost over 256,000 men, with half dying in battle or as a result of injuries sustained during battle. Disease claimed the other half. Russian casualties are hard to acquire, but their total casualties are assessed to be between 500,000 and 800,000.⁹⁷

Every force involved in the war dealt with disease in some capacity. Illness affected everyone from the lowliest soldier to the highest commander. France's first commander, Marshall St. Arnaud, died in September 1854 of cholera.⁹⁸ Cholera also weakened the British leader, Lord Raglan, who finally succumbed to depression and dysentery in June 1855.⁹⁹ With the cause of cholera largely unknown, many soldiers could not have avoided this disease. Some French troops from Algeria did have experience with the disease and knew how to avoid it, but their knowledge was not widely

⁹³ Royle, *Crimea*, 434.

⁹⁴ Arnold, *Historical Dictionary*, 39.

⁹⁵ "Crimean War: Loss of Life in Different Ways," 106.

⁹⁶ *Ibid.*, 107; Ottoman sources are unreliable because adequate records have not survived to the modern day.

⁹⁷ Arnold, *Historical Dictionary*, 39.

⁹⁸ Russell, *Dispatches*, 98, 104.

⁹⁹ Figes, *The Crimean War*, 372.

disseminated.¹⁰⁰ An array of maladies plagued the combatants throughout the entire war. After the capture of Sevastopol in September 1855, the Allies debated how to end the war. The British wanted to push troops into Russia to reduce their influence in Europe. Meanwhile the French, decimated by disease, wanted an end to the war, with the hope that soldiers would be removed before another summer, and the threat of cholera, hit again. To these ends, the Treaty of Paris officially ended the war when signed on March 30, 1856. Weakened from disease and injuries, the forces returned home.

Legacy: “Echoes of all the horror, all the misery”¹⁰¹

British and French forces were active for just over two years in the Crimean War. The conflict became the testing ground for technology that revolutionized the world.¹⁰² William Howard Russell, his numerous excerpts noted throughout this essay, was the first real war correspondent. He reported with stunning clarity and vibrancy to a captive audience back in England and his descriptions roused sympathy and anger in many British citizens. Railroads soon dominated the global landscape, their usefulness spotted instantly. The public was also treated to another innovation that had an almost immediate impact: photography. Roger Fenton employed his expertise to take photographs of the Allies’ expedition; his most famous work is “Valley of the Shadow of Death,” where cannonballs completely cover a bleak and desolate landscape (figure 1). Fenton’s presence was a boon to soldiers as well, who wanted portraits done to send home for Christmas.¹⁰³ Through these two innovations, the war made its way into the homes of English families and into the minds of Victorian decency. The innovations are at least partly responsible for the push to send medical aid east.

¹⁰⁰ Figes, *The Crimean War*, 191.

¹⁰¹ Gibbs, *Crimean Blunder*, 290.

¹⁰² Arnold, *Historical Dictionary*, ix; Roger Fenton, *Roger Fenton, Photographer of the Crimean War: His Photographs and His Letters from the Crimea*, edited by Helmut and Alison Gernsheim (London: Secker & Warburg, 1954), 2.

¹⁰³ Fenton, *Photographer*, 16.

One product of these innovations was Florence Nightingale. *The London Times'* explicit and scathing reporting drew her to volunteer in the war. Her revolutionary success is therefore due in part to the success of war reporting and advances in communication. Nightingale, upon returning to England, continued to reform by writing medical treatises, creating training courses, and establishing hospitals.¹⁰⁴ News of her efforts reached Queen Victoria's ears and the Royal Victoria Hospital in Southampton was founded in 1863 as a response.¹⁰⁵ One writer later acknowledged Nightingale's role in improving civil and military medicine, stating that the medical department "will no longer feel the want of hospital appliances" should another war break out.¹⁰⁶ Nightingale's example can also help explain the origins of the International Committee of the Red Cross, founded in 1863 by Henry Dunant.¹⁰⁷ In everything, she devoted herself to the care of common person. She stood "at the Altar of the murdered men" and vowed to always fight for their cause.¹⁰⁸ An English scholar of American history stated that Nightingale's achievements would stand out long after the battles faded from cultural memory.¹⁰⁹ Her innovations in bookkeeping, cleanliness, and medical training outlived the female visionary.

While her reforms enacted during the Crimean War have already been discussed at length in this essay, her influence was not limited to Europe. The improvements in statistics and organization during the American Civil War openly derived from Nightingale's work.¹¹⁰ The triumph of the United States Sanitary Commission, established in 1861, stemmed from her example as well.¹¹¹ An enormous amount of Union and Confederate men died of disease during the war. Contemporaries noted at least a

¹⁰⁴ Clare Lomas, "In the Thick of It," *Nursing Standard*, Vol. 28, No. 24, (12 Feb. 2014), accessed 14 March 2017, <http://search.ebscohost.com.er.lib.k-state.edu/login.aspx?direct=true&db=aph&AN=94394945&site=ehost-live>, 21.

¹⁰⁵ Paula Kitching, "Four faces of nursing and the First World War," *The Historian*, 119 (Autumn 2013), accessed 14 March 2017, <http://search.proquest.com.er.lib.k-state.edu/docview/1471039034>, 30.

¹⁰⁶ Horace Swete, "Transactions of Branches," *The British Medical Journal*, Vol. 1, No. 280 (12 May 1866), accessed 4 Feb. 2017, <http://www.jstor.org/stable/25205628>, 491.

¹⁰⁷ Frederick Milnes Edge, *A Woman's Example: and a Nation's Work* (London: W. Ridgway, 1864), 6-9.

¹⁰⁸ Nightingale, *Letters from the Crimea*, 296.

¹⁰⁹ Edge, *A Woman's Example*, 5.

¹¹⁰ Grant, "New Light," 16.

¹¹¹ *Ibid.*, 15.

slight decrease in the percentage of deaths from disease because of improvements in sanitation.¹¹² Clara Barton found the American branch of the Red Cross in 1881 after gaining inspiration from the Geneva-stationed International Red Cross.¹¹³ This is yet another instance of Nightingale's influence peppered throughout history. Her international impact cannot be underestimated.

Another contemporary scholar noted that even though the war brought about numerous failures in the realm of medicine, these failures provided an experience for the English who learned from the mistakes of the past. Viewed as "one vast school for medical men," the scholars hoped the knowledge of the war veterans had obtained would be applicable back in England.¹¹⁴ Civilian and military doctors began recommending chloroform as a gracious way to avoid unnecessary pain.¹¹⁵ Writers called for medical reform immediately after the war.¹¹⁶ Indeed, the world, England especially, learned from the mistakes committed during this war by the start of the twentieth century. With medical errors corrected, the Great War from 1914-1918 was the first war where more soldiers died from injuries than from disease.¹¹⁷ While the First World War overshadows the Crimean War in every category of death and destruction, it could have been much worse had lessons from the Crimean War not been implemented. Therefore, the sacrifice of those in the 1850s must be recognized and remembered, lest we forget how we attained our medical knowledge and technology.

¹¹² "The American Rebellion," *Advocate of Peace (1847-1884)*, New Series, Vol. 1, No. 10 (October 1869), accessed 4 Feb. 2017, <http://www.jstor.org/stable/27904462>, 151.

¹¹³ "History," The American National Red Cross, accessed 27 April 2017, <http://www.redcross.org/about-us/who-we-are/history>.

¹¹⁴ "The Week," *Association Medical Journal*, Vol. 4, No. 170 (5 April 1856), accessed 4 Feb. 2017, <http://www.jstor.org/stable/25497148>, 275.

¹¹⁵ Henry Connor, "The Use of Chloroform by British Army Surgeons during the Crimean War," *Medical History*, Vol. 42, no. 2 (April 1998), accessed 14 March 2017, <http://search.proquest.com.er.lib.k-state.edu/docview/229748644>, 191-192.

¹¹⁶ "An Officer of Health for the Army," *The British Medical Journal*, Vol. 1, No. 10 (7 March 1857), accessed 4 Feb. 2017, <http://www.jstor.org/stable/25191099>, 199.

¹¹⁷ Lomas, "In the Thick of It," 21.

“Success was indeed obtained, but its cost had been great.”¹¹⁸

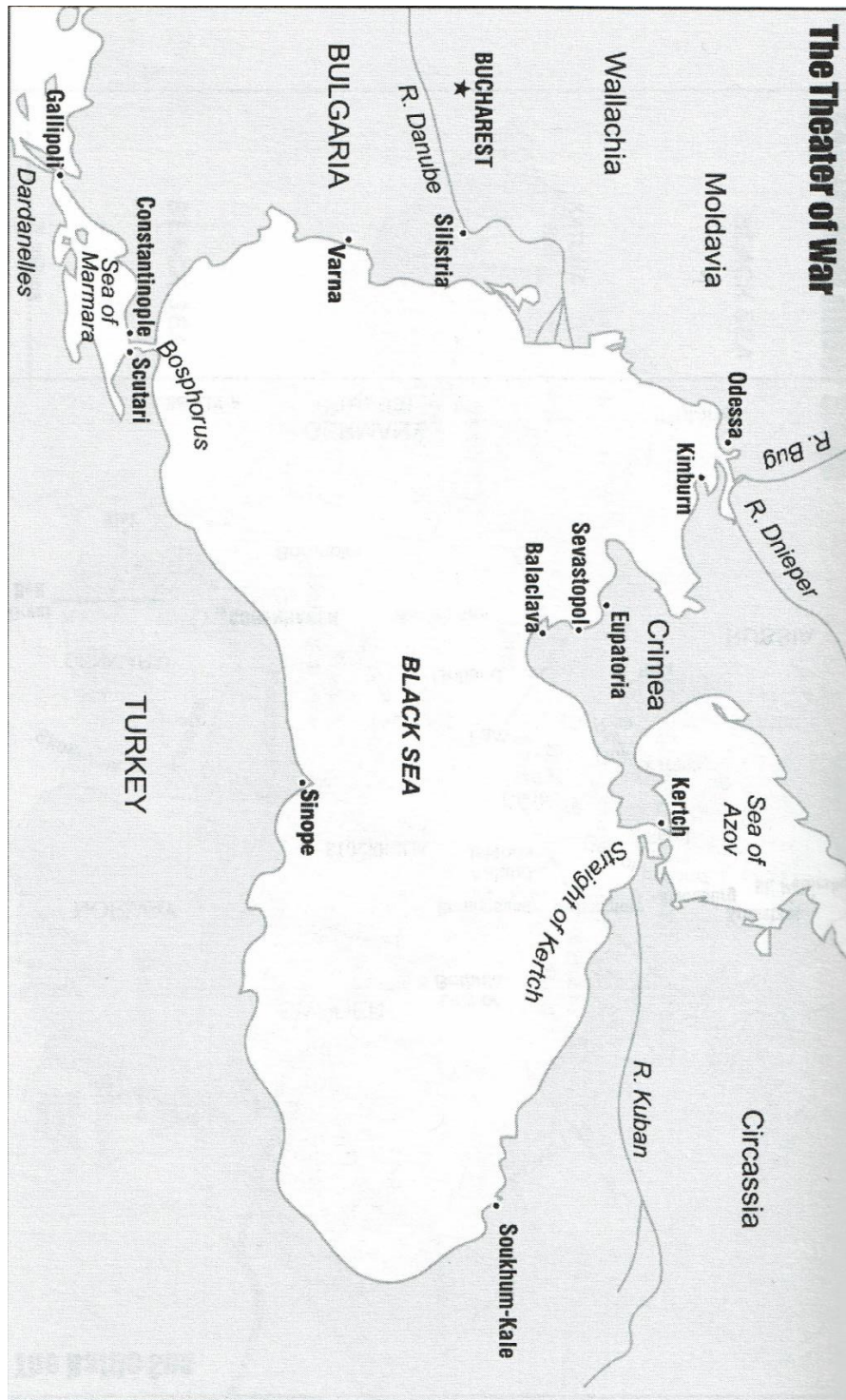
In stark contrast to the Crimean War, today’s soldiers in present conflicts and wars are not mainly victims of disease. Thankfully, casualties have been reduced from hundreds of thousands to merely thousands, even hundreds. As tensions in the Middle East and the Far East escalate dangerously close to a boiling point, the Crimean War stands as a reminder of futile death. It also serves as a hope that such callous and needless suffering will not happen again. The interconnected worlds of battle and illness continue to drive technological innovation, as new ways of killing are met by new ways to heal. The recent conflicts in Iraq and Afghanistan are no exception.¹¹⁹

Even in the twenty-first century, most Western populations are forever indebted to this horrendous blunder of a modern war. Historians may not have anything positive to say about the conflict, but its impact on us is unmistakable. Nursing became a legitimate career for women and their presence became necessary both on the battlefield and at home. Behind-the-scenes issues like medical administration, organization, and transportation are almost, if not more, important than the actual fighting. Anaesthesia is commonplace, alleviating pain from necessary procedures. The thankless acts of Florence Nightingale and Nikolay Pirogov showed the world what it took to instrument reform. Taken at large, the Crimean War facilitated the professionalization of medicine in a deadly crucible – we dare not forget the path carved by its participants and victims.

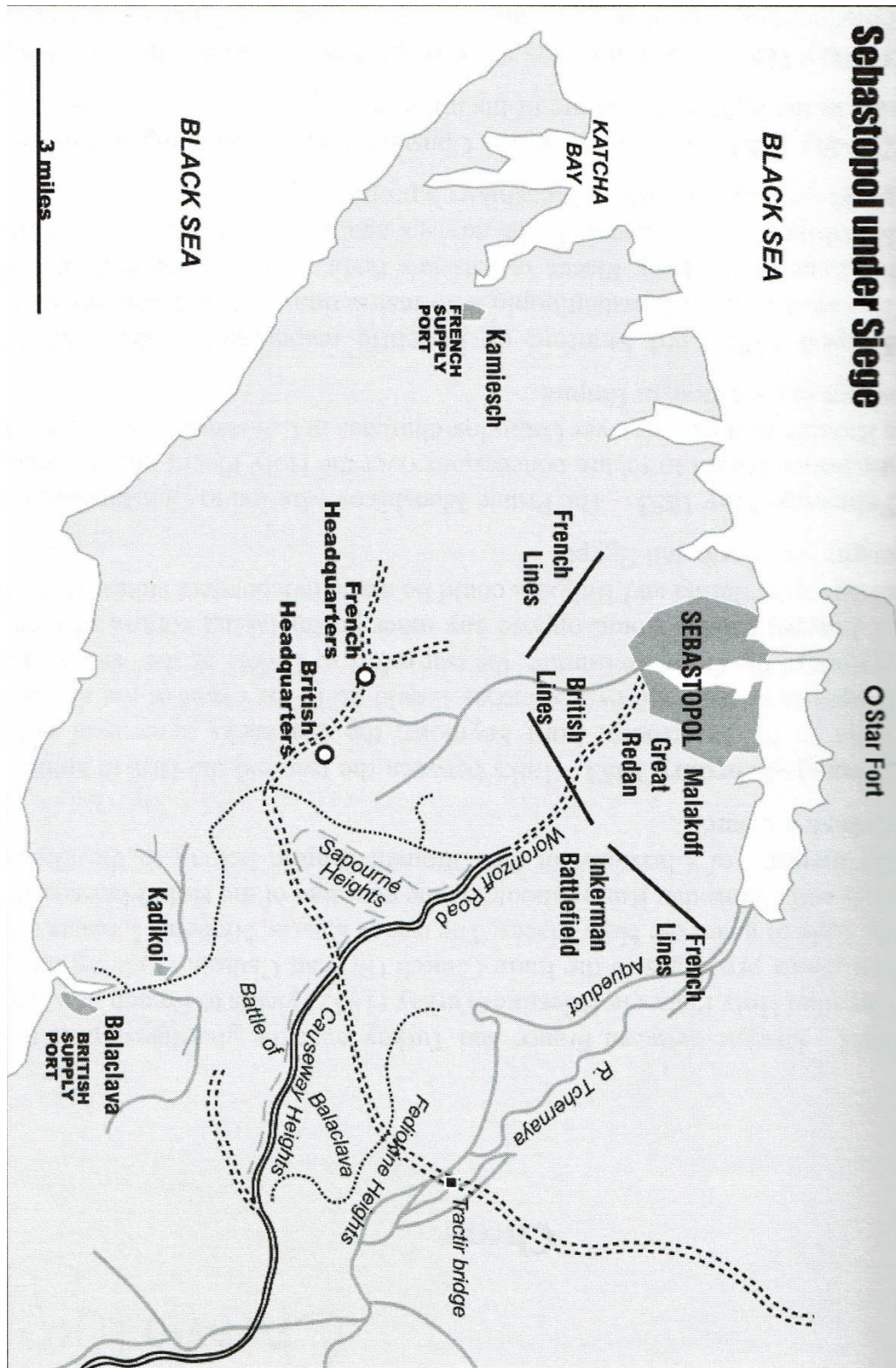
¹¹⁸ Russell, *Dispatches*, 277.

¹¹⁹ For more information on medical developments from current conflicts, see articles by Andrea Signor (<http://taskandpurpose.com/10-medical-advancements-from-the-iraq-and-afghanistan-wars/>) and Brig. Gen. Norvell Coats (https://www.army.mil/article/112860/Military_medical_advances_in_combat_can_help_civilians_at_home).

Appendix



Map 1. Most of the action in the Crimean War took place in and around the Black Sea. From Guy Arnold's *Historical Dictionary of the Crimean War*. Copyright © 2002 by Guy Arnold. Inclusion of this map included under a fair use evaluation. Documentation of this evaluation is available upon request.



Map 2. A zoomed-in look at Sevastopol, where fighting took place from fall 1854 to spring 1856. From Guy Arnold's *Historical Dictionary of the Crimean War*. Copyright © 2002 by Guy Arnold. Inclusion of this map included under a fair use evaluation. Documentation of this evaluation is available upon request.

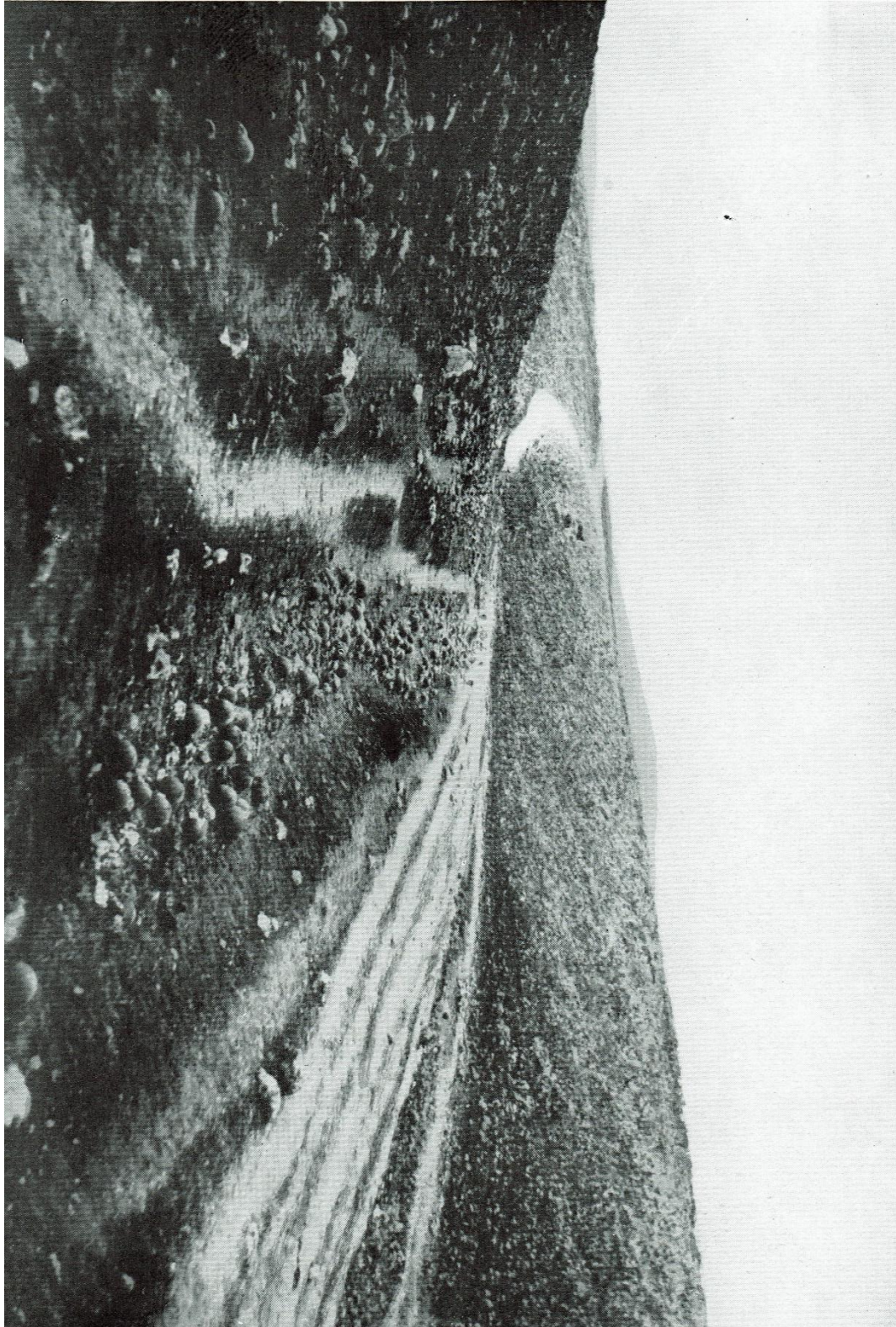


Figure 1. "The Valley of the Shadow of Death" is literally a shadow of death, as most of the round objects in the picture are cannonballs fired from Sevastopol.

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