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Civil War Essay Contest

Weaponry, Injuries, and Medicine: The Civil War to Today

During the American Civil War from 1861-1865, the United States experienced a conflict that fractured the nation and drove Americans against Americans, eventually resulting in the deaths of approximately 750,000 soldiers (LBH). This tragic period in history, however, ignited a dramatic change in the medicine of the era, and has had a significant impact on the foundation of modern American medicine and its ongoing innovations.

Before analyzing the treatments and medicines of the Civil War, one must understand what weapons were used in battle, as well as the most commonly seen injuries. While many explosive ammunition, including the Gardner, grapeshot, and canister, were used frequently during combat, the majority of gunshot wounds seen during the war were caused by the musket ball. These spherical, iron bullets passed cleanly through their targets, leaving an equally sized entry and exit wound, while damaging bone and tissue upon their passing. Although these shots were certainly painful, the wounds they caused were often manageable. The real problem was caused by another type of bullet – the minié bullet. The he more impactful ammunition was made from lead and had a conical shape, causing the bullet to flatten upon contact with flesh. As the conical bullet spread out, its impact increased, severely damaging, and often obliterating, whatever part of the body the bullet had hit.

When a soldier suffered from an injury on the battlefield, his care was dependent on the severity of his wounds, as well as his current whereabouts on the field. If a soldier sustained a minor injury, he would walk over to one of the field hospitals stationed nearby. These were set up inside of any available buildings in a close proximity to the battlefield for easy access, but far

enough to remain safe and avoid artillery fire. The number of patients that visited these stations increased rapidly as the war went on, and soon more space was needed to care for the wounded. William Hammond, the Surgeon General in 1862, designed a new “pavilion” architecture for these mini hospitals composed of one central hub conjoined with various sectors. (Smithsonian) The purpose of these sectors was to separate patients based off their illness or condition, in order to minimize the spread and intermingling of diseases. Hammond also focused on keeping these spaces highly ventilated in order to maintain air circulation throughout the building, an early concept that eventually led to the understanding of how germs worked and their negative effects on people’s health. According to historian Ken Koyle, “By 1865, over 200 hospitals of this kind had been built, with over 135,000 beds...”(Smithsonian). While this pavilion setup is now considered outdated and no longer used, certain aspects of the design, such as ventilation, are still used today.

Although these stations cared well for the soldiers when they arrived, they failed to transport soldiers safely to the facilities. Many died simply trying to reach the hospitals, either directly from their injury or due to the fighting taking place around them. While there was an established ambulance system meant to pick up soldiers and carry them to help, it had many faults, and sometimes did not even reach the patient in need. So in August of 1862, a physician named John Letterman established a functioning ambulance system for the Union Army of The Potomac, along with the Ambulance Corps. (NMCWM) The Ambulance Corps was a section of the Medical Department specifically trained in first aid and transporting wounded soldiers. The new system involved a three step procedure for transporting injured soldiers from the battlefield straight to safety, while caring for their injuries as much as possible in the process. The patients were first brought to a field dressing station, which offered immediate care to patients who

required it. This included dressing wounds, applying tourniquets, etc. Afterwards, they were brought to a nearby field hospital where they were analyzed and given any necessary attention or emergency procedures. Finally, the soldiers were transported to large hospitals for long term care and treatments. Letterman's innovation of the battlefield's medical system was not only impactful on the Civil War era, but on modern day medicine as well. All over the U.S, whether it be an incident on the road or an injury at home, ambulances serve as an immediate source for medical help and transportation to hospitals. Letterman's three step care procedure is also still used in military settings today.

Due to the thousands and thousands of patients that required care throughout the war, doctors sought after the safest and most efficient methods of treatment. Injuries on the battlefield varied from minor cuts and gashes to life threatening wounds; some were easily stitched up and healed, while others required much more drastic medical procedures. When a soldier suffered from a projectile injury, doctors considered two different methods of treatment. In some cases, when the injury did not affect the patient's nerves or arteries, doctors performed resections, also known as excisions. This procedure involved removing a substantial amount of the shattered bone or mutilated joint, while sparing as much of the limb as possible. While this method seems preferable, it in fact had a much higher fatality rate than the alternative – amputation.

Amputations were divided into three separate categories: primary, intermediary, and secondary. Primary amputations took place within forty eight hours of the patient's injury and was preferred by the majority of surgeons as it resulted in the highest survival rate. Intermediary amputations took place anywhere between three and thirty days after the wounding, and secondary over thirty days after the wounding. The latter two put the patient at a much higher risk of death, as the longer wait allowed infections and side effects of the injury to worsen their condition.

(NMCWM) According to Virginia Tech research, "Out of 174,206 known wounds of the extremities treated by Union surgeons, nearly 30,000 wounded soldiers (17%) had amputations with approximately a twenty-seven percent fatality rate. Historians estimate that there were some 25,000 Confederate amputations with a similar fatality rate." (ECWC) In order to perform an amputation, the patient needed to be relaxed, but unlike today, remain awake. At every operation requiring a sedative, there was a skilled medical officer present who administered the substance to the patients. The most common anesthetics used at this time were chloroform and ether. Just enough of the chemical was given to the patient to prevent them from feeling any pain during the operation, although many soldiers still thrashed about and had to be held down for the duration of the procedure. As amputations became more and more common, the demand for prosthetics increased. In 1861, a soldier named James Hanger lost his leg in battle, and designed his own prosthetic replacement upon his return home. The soldier put a patent on his design, calling it "The Hanger Limb": the prosthetic was made primarily of rubber, including a rubber foot, and inspired many future designs for prosthetic limbs. (Smithsonian)

As doctors continued to perform countless sutures, surgeries, and amputations to save as many lives as possible, thousands of soldiers continued to die from disease and infection. Neither scientists nor surgeons had discovered that germs were the cause of these fatal diseases. Surgeons simply did not wash or cleanse their hands before operating, and used them as tools during surgery to reach inside of wounds. Any specs of dirt or debris that was on the surgeons' hands fell into the wounds, putting patients at extremely high risk of infection. They also did not think to sanitize medical instruments before or after operations, and simply reused them on several different patients. The cross contamination of these tools caused bacteria to grow and added to the issue of infection amongst patients. Discovery Channel researcher Emily Sohn

stated that "As a result, for every Civil War soldier that died of an injury or gunshot wound, more than two died from dysentery, diarrhea or other infectious diseases." (Discovery Channel) Some of the most common diseases that affected the soldiers were erysipelas and hospital gangrene. These highly contagious skin diseases formed beneath patients' skin, damaging the tissue, and often spreading to the lymph nodes. Once the disease spread this far, it entered directly into the blood stream and worked the infection throughout the entire body. Doctors, still unaware that their poor methods of hygiene were the root of the cause, classified the illness as pyemia, or "blood poisoning." This disease had a dramatic impact on this era, killing about ninety percent of those who contracted it.

The American Civil War era brought forth many remarkable advances in medicine, and presented many new ideas which we still benefit from today. It ignited a change in the medical field that allowed people to learn from the tragedies and injuries taking place around them. From new methods of transportation, to advancing prosthetics, and learning about the importance of sanitation, this era presented us with a plethora of new ideas from which we built the medical system we have today.

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Contrast in the Civil War

The American Civil War (1861-1865) still has many significant impacts on the world today including racial tensions, but what about the factors that influenced the war? Photography was invented decades before the American Civil War, but it became popular during the war for creating keepsakes and accurate representations of the horrors of battles.

Photography in the mid-nineteenth century was still very new and was therefore a painstaking process consisting of putting a mixture of chemicals on dampened glass which then was inserted back into the camera, and after a picture was taken, it had to be developed in a dark room. These images were then printed onto paper to be sent out.

One major importance of photographs was the emotional and personal value they held, especially in the context of the mass death and loss in the war, where more than 750,000 Americans died. Many families tried to ease their fear of losing their loved ones who were soldiers by keeping a photograph of them. They often believed these photographs were so special that holding them would protect their brothers, sons, fathers, and uncles from pain and death. Of course, this belief was false, but it let families carry on, giving them hope and some solace. These pictures were commonly taken at a photography studio before the soldier was sent off to fight, or taken while at military camps and mailed to family back home. This was a time-consuming, meticulous, and expensive process, but it was worth it for families longing for a keepsake. Frequently, soldiers also kept small pictures of loved ones in compact leather albums that were held in a pocket pressed against the soldier's chest. This, both physically and figuratively, kept their families close to their hearts and further emphasizes the sentimental value of photography.

Another way that photography drastically influenced the American Civil War and its aftermath is the representation and depiction of the war itself. Before photography was available, the closest that civilians could get to seeing war and battle was through drawings, or their own experience. However, drawings were not always fully accurate, which can give a false idea of war. One of the main tragedies of war is that young soldiers often believe that battle is honorable, and they do not anticipate the real gore and devastation of war. However, with accurate photographic images, the sorrow and brutal reality are clearer to see, which aided greatly in the disillusionment of misconceptions about battle, and tore citizens away from blind support of the war, effectively shortening the war. "The New York Times" stated, "Mr. Brady has done something to bring home to us the terrible reality and earnestness of war. If he has not brought bodies and laid them in our dooryards and along the streets, he has done something very like it." (Niiler, NBC News). This is an extremely powerful statement that gives a massive amount of credit to Brady for the disillusionment in war.

Many prominent figures were also represented well in photographs during the American Civil War. Abraham Lincoln attributed much of his success to the well-known photographer, Matthew Brady, who had taken an impactful photograph of him. When Lincoln was elected President of the United States in 1860, he said, "Brady and the Cooper Union speech made me president." (Catlin, Smithsonian Magazine). This shows how much a positive and accurate representation of eminent figures can influence their success. In Lincoln's case, he was thought by many to be rough around the edges, but in the picture by Brady, he looks elegant and sophisticated. This depiction of him matched his refined words and speeches, and the combination of his words and this photograph elevated him to the presidency.

In conclusion, photography considerably influenced the American Civil War because of the connection it allowed between sentimental soldiers and families, and the portrayal of the realities of war, for instance, it showcased the toll that war can take on someone, when one compares Lincoln's face in 1860 to the photographs of him in 1864-65 by Brady and John Gardner. While photography may not have changed the course of the war, it was a compelling invention that shaped the experience of the war for both soldiers and civilians. As Matthew Brady stated, "The camera is the eye of history," (Covkin, U.S. History Scene), and this still rings true over one hundred and fifty years later. The Civil War was the first major American conflict in which photography was a large factor, but it was certainly not the last, as it continues to be a major part of war media.

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To Bring an End

During the American Civil War, the Union Generals repeatedly tried to use conventional military tactics to beat the Confederates in battle, but eventually they realized that this approach would not work. The Confederate Generals, including Robert E. Lee and Thomas Stonewall Jackson, were too tactically brilliant to be defeated that way. But in 1864, Union Generals such as Ulysses S. Grant and William Tecumseh Sherman were promoted to higher roles. In an effort to end the war they developed merciless strategies, including war on civilians, destruction of land and dogged pursuit at any cost. In three campaigns during 1864, the Union pushed the limits of warfare to achieve victory.

Throughout the war, the Shenandoah Valley was a key area to both sides. It was important to the Union because the Confederates could follow the valley straight to the Union capital, Washington, D.C. For the South, the valley was one of their main sources of food and was often called, "The Breadbasket of the South." In August of 1864, Grant sent General Philip Sheridan to destroy this food source. Sheridan fought, and won, a couple of major battles; The Third Battle of Winchester, The Battle of Fisher's Hill and The Battle of Cedar Creek. Along the way, Sheridan torched farmland, barns and warehouses, crippling the South's food supply, and taking out one of the Confederacy's main assets.

Meanwhile, Sherman was using a similar strategy in Georgia. The state was a huge supplier of food for the Confederacy and had 1,420 miles of railroad tracks. The

city of Atlanta was a hub of industry, with four major railroads providing the rest of the South with food and supplies. On November 15, 1864, Sherman's army captured Atlanta. They destroyed its infrastructure, and set fire to much of the city. Then Sherman had his army cut its own supply lines and set off on a long march across the Georgia countryside. They destroyed mills, factories and tore out sections of railroad. To get food, soldiers were allowed to loot from civilians and burn their buildings and land. This invasion also served to break the spirit of southern civilians. They could only watch as their world burned around them, and their food supplies for winter had been stolen. Sherman's army showed them that the Confederate government was not equipped to help them. Sherman and his troops marched clear to the sea, leaving a path of destruction, starvation and hopelessness behind them.

The Union was doing significant damage, but the war would have to be decided in Northern Virginia, the land between the two capitals, Washington and Richmond. Grant's Union army massively outnumbered Lee's Confederate troops, and Grant chose to ride this advantage to the end of the war. Grant decided that he would continually engage Lee's army, and never turn back, no matter the human cost. Grant knew that Lee would run out of men before he did, and he aimed to get to that point as soon as possible. Over the course of a week in April, 1864, the two sides fought two of the five bloodiest battles of the war; The Battle of the Wilderness and The Battle of Spotsylvania Courthouse. Yet Grant did not begin to slow down. He unflinchingly led his army into more costly battles in his six-week Overland Campaign. Both sides took massive losses; around 33,000 for the Confederacy and around 55,000 for the Union. Although the North had lost nearly twice as many men as the South, the Confederacy was now running dangerously low on men.

Then Grant crossed the James River and made a definitive move toward Richmond. Lee rushed to defend, but soon Grant was joined by the victorious forces of Sheridan and Sherman. Lee's weary army held out for months in The Siege of Petersburg, but eventually they were overwhelmed by the sheer numbers of the Union Army. Robert E. Lee was left with no option but unconditional surrender.

The war had ended, but on a more solemn note than most expected. Gone was the formality of war; the pretense of shoulder-to-shoulder marches, clean uniforms and respect for civilians. This war had been decided brutishly and gruesomely, with honor abolished in favor of necessity.

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