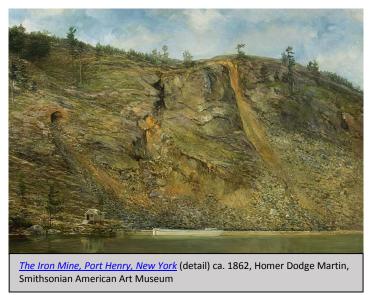


How the Railroad Won the War



During the Civil War, some artists used the landscape as a metaphor for the horrors of war. In this context, redorange iron ore streaming from gaping mineshafts like bleeding wounds becomes representative of the bullets which riddled men, forests, and homesteads during the war. The damaged landscape echoes the corpsestrewn battlefields seen in photographs of particularly bloody battles like **Antietam**. Port Henry's abandoned iron mines become yet

another casualty of the war, much like the men who fought on the battlefield and the towns and homesteads that were leveled by the armies of Generals **Grant** and **Sherman** in the South.

Yet not all landscape paintings produced during the Civil War represented our country's wounds. Another reading of *The Iron Mine, Port Henry, New York* is that the iron ore is representative of the strength of the Union Army. Homer Dodge Martin's painting asserts the primacy of the North, whose strength lay in its natural resources and manufacturing. Iron played a crucial role in the Union victory. The mines at Port Henry tapped one of the richest veins in the northeast, and supplied much of the iron used to create the country's rail lines in the 1850s.

Railroads were effective, reliable, and faster modes of transportation, edging out competitors such as the steamship. They traveled faster and farther, and carried almost fifty times more freight than steamships could. They were more dependable than any previous mode of transportation, and not impacted by the weather. Perhaps most importantly to those with an eye on government finances during the war, their direct routes and dependable scheduling reduced the cost of transportation by nearly ninety-five percent, freeing capital for other uses.

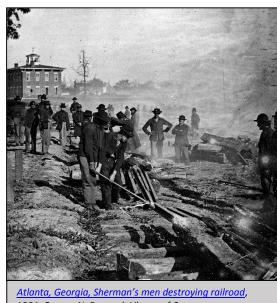
The North had a greater advantage over the South in terms of its human, natural, and industrial resources, but it was the effective application of these resources which provided the greatest windfall for the Union. The Union Army's capitalization and strategic use of the railroad played a direct role in helping the North win the war.



The Tactical Importance of the Railroads

The Civil War was different from previous conflicts as it was, in a sense, the first modern war. Previous battles, like those of the Revolutionary War, had been fought in or near populous

areas to take advantage of local resources. Where a battle was fought was dependent on the availability of these resources. Armies moved constantly so as to not exhaust one area's supply. But with the advent of the railroad battles no longer needed to be waged so close to urban areas. The majority of Civil War battles were fought outside populated areas, in what were then remote and underdeveloped areas of the country, primarily in southern states like Mississippi, Tennessee, and Georgia. Every major Civil War battle east of the Mississippi River took place within twenty miles of a rail line. Railroads provided fresh supplies of arms, men, equipment, horses, and medical supplies on a direct route to



1864, George N. Barnard, Library of Congress

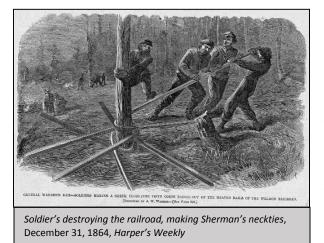
where armies were camped. The railroad was also put to use for medical evacuations, transporting wounded soldiers to better medical care. Consequently, armies were not dependent on the bounty, or lack thereof, of the land which they occupied.

Railroads were visible symbols of industry and modernity during the Civil War. They were agents of progress, promoters of civilization, and enhancers of democracy which could bind the North and the South together as one nation. They were also the lifeline of the army. A general's success or failure depended on fresh supplies and soldiers delivered directly to the battlefield. Consequently, Union strategists deliberately targeted rail junctions as campaign objectives in places like Chattanooga, Tennessee; Atlanta, Georgia; and Corinth, Mississippi. This was especially true of Atlanta, a city which served as the Confederacy's rail hub and manufacturing center.

Railroads became a set of guidelines between which campaigns were waged, battles were fought, and men and materials were moved. A commander's understanding of the rail network became key to managing operations and informing tactical decisions. Arguably, no Civil War commander used the rail network to their advantage quite like Union General William **Tecumseh Sherman**. Sherman elucidated on the importance of the railroad for the Union during the Atlanta campaign:



Four such groups of trains daily made one hundred and sixty cars, of ten tons each, carrying sixteen hundred tons, which exceeded the absolute necessity of the army, and allowed for the accidents that were common and inevitable. But, as I have recorded, that single stem of railroad, found hundred and seventy-three miles long, supplies an army of one hundred thousand men and thirty-five thousand animals for the period of one hundred and ninety-six days, viz., from May 1 to November 12, 1864. To have delivered regularly that amount of food and forage by ordinary wagons would have required thirty-six thousand eight hundred wagons of six mules each, allowing each wagon to have hauled two tons twenty miles each day, a simple impossibility in roads such as then existed in that region of country. Therefore, I reiterate that the Atlanta campaign was an impossibility without these railroads; and only then, because we had the men and means to maintain and defend them, in addition to what were necessary to overcome the enemy.



Following the Battle of Atlanta, as Sherman's army moved east to begin the **Savannah Campaign** (commonly referred to as the **March to the Sea**), his railroad men destroyed all of the rail lines that led back to Chattanooga,

Tennessee so as to deny a vital supply line to the Confederates. This railway destruction tactic was referred to as **Sherman's neckties**.

The rails were heated and then bent into a loop around the trunks of trees, in the shape of a necktie, so that they could not be easily or

quickly repaired. This was such an important tactic that Sherman made it a point to oversee it himself:

The whole horizon was lurid with the bonfires of rail-ties, and groups of men all night were carrying the heated rails to the nearest trees, and bending them around the trunks. Colonel Poe had provided tools for ripping up the rails and twisting them when hot; but the best and easiest way is the one I have described, of heating the middle of the iron-rails on bonfires made of cross-ties, and then winding them around a telegraph-pole or the trunk of some convenient sapling. I attached much importance to this destruction of the railroad, gave it my own personal attention, and made reiterated orders to others on the subject.



Destroying the Confederacy's railroads took away another advantage the South had over the North – land mass. By shrinking the vast space the Confederate Army could operate within, the Union was able to contain the Confederate army to a much smaller, and much more vulnerable, piece of land. This cost the South its use of **interior lines**, crippling the ease with which they had been able to move troops from point to point by railroad and attain victories.

Northern versus Southern Railroads

The South's reliance on a primarily agrarian economy, coupled with a modest manufacturing base, meant that there was limited demand for rail service in the Confederacy. Less capital had been invested and as a result the rail network in the South was in poor condition, having been manufactured during the early years of railroad development when significant improvements had not yet been made. Since manufacturing was more dominant in the North, the Union had access to a disproportionate amount of foundries compared to the South.

The rails of the day were made from relatively soft iron which often broke or would wear away after continued use. Northern foundries began to experiment with stronger and more durable iron products such as steel. But the southern foundries had difficulty purchasing the necessary supplies for diligent upkeep of their rail lines, and as a result, the infrastructure of southern rail lines gradually crumbled. It has been estimated that during the Civil War, southern foundries could only manufacture 16,000 tons of railroad iron per year, yet 50,000 tons was required to adequately repair their deteriorating rail lines. To contrast that number, Pennsylvania foundries alone produced almost 270,000 tons of iron in 1860. Consequently even before war broke out, the South purchased most of their iron from Northern foundries. After the war began, the South outsourced, purchasing iron from Europe. However, the Union navy did their best to prevent this.

Southern rail lines also suffered from disconnect due to change in **gauge**, something that had happened as the rail networks evolved over time. North Carolina and Virginia shared the same type of gauge, **standard gauge**, yet the rest of the Confederate rail system operated on **broad gauge**. This disconnect kept much of the South isolated. Freight would have to be offloaded to another mode of transport, usually a wagon train, and then re-loaded onto another locomotive. Standardizing the gauge throughout the system during the war was not an option for the South, which lacked the time, money, and supplies to do this successfully. Once the North had captured a Southern rail line, it was effectively cut off from the rest of the network and rendered useless.



Glossary

Antietam (Battle of): September 16, 1862 near Sharpsburg, Maryland, considered the bloodiest single-day battle in American history; the combined Union and Confederate casualties numbering 22,717 persons.

broad gauge: railways that use a track wider (usually 5 ft.) than the standard gauge of 4ft. 8.5 in.

gauge: the distance between the inner edges of the heads of the rails in a track.

Grant (Ulysses S.): (1822-1885) 18th President of the United States and commanding general of the Union Army during the Civil War.

interior lines: the military circumstance of either being able to move over a shorter distance to execute maneuvers and effect reinforcements or possessing a more efficient transportation method, such as a railroad, that allows for rapid deployments.

March to the Sea: military campaign waged in 1864 by General William Tecumseh Sherman which began with the capture of Atlanta and ended with the capture of the port city of Savannah. It is renowned for its bold path deep into enemy territory without the use of traditional supply lines and its level of destruction on the South. Also known as the Savannah campaign.

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Sherman's neckties: a railway destruction tactic developed by General William Tecumseh Sherman in which rails were heated and twisted into loops resembling neckties, a tactic which rendered them unusable.

standard gauge: a railway track that is 4ft. 8.5 in. wide.

William Tecumseh Sherman: (1820-1891) Union army general during the Civil War, best known for his victory at the Battle of Shiloh, the capturing of Atlanta, and his March to the Sea.