Introduction
This is a story about Camp Alger. It is also a story about space. It is a story about how, in 1898, typhoid fever, endemic to the United States, was spread by the mobilization of troops to state and national assembly camps. It is a story about how concentrating and crowding soldiers into these camps produced the environmental-spatial relationships that allowed the dissemination of the typhoid bacillus. It is a story about the spatial relationship of the typhoid bacillus to the human intestinal tract and the devastating effects that follow when that relationship is allowed to occur. Finally, it is a story about the ephemeral, temporal-spatial relationship we have to places that are no longer visible and often long forgotten.

War and Mobilization
When the United States declared war on Spain in April of 1898, it did so with an Army that was entirely unprepared for the effort. At the onset of the war with Spain, the US Army was limited to 25,000 men. The Spanish were estimated to have 400,000 men in uniform. The need for rapid expansion and mobilization of US Army forces was self-evident. In a matter of a few months in 1898, Army end strength would swell to over 200,000 men. The need to equip, transport, house, feed, and provide medical care for the volunteers quickly overwhelmed the War Department’s capabilities. The chaos that ensued provided a rich environment in which the typhoid bacillus would thrive. By the conflict’s end, combat-related injuries would claim 345 lives. Typhoid fever, on the other hand, would claim over five times that number leaving 2000 dead.
The Epidemic in Military Camps

Typhoid fever was one of the major scourges of the nineteenth century and a notorious military camp disease. During the Civil War, over 75,000 cases occurred and more than 25,000 died.\(^1\) At the onset of the war with Spain, typhoid fever was endemic in the United States. In 1898, the US Army’s method of mobilizing from numerous small state camps to five large national assembly camps facilitated the spread of the disease. These densely populated encampments provided the perfect setting for transmission of typhoid fever. Some 24,000 soldiers contracted the disease in these camps. At the height of the epidemic, up to 350 were struck down each day.\(^2\) Seven miles west of Washington, DC, the situation was no less dire at Camp Alger.

\[\text{View of Camp Alger (right) in the summer of 1898}
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\[\text{Photograph courtesy of the Fairfax County Public Library Photographic Archive}\]
Camp Alger
In the spring of 1898, the fields and forests of Woodburn Manor—a largely untended and overgrown farm on the west side of Falls Church in the Dunn-Loring region of northern Virginia—would be inundated with soldiers preparing for war with Spain. From May to August, over 23,000 soldiers would call this 1400-acre parcel of land home. During its tenure as one of the five national assembly points, Camp Alger would host 24 infantry regiments from 14 states. Overcrowding quickly became an issue. A dry spring and summer that year resulted in a short supply of potable water. An insufficient latrine system further complicated efforts to achieve and maintain sanitary measures.

Mapping the arrival of typhoid fever at Camp Alger in 1898

Visual evidence of overcrowding at Camp Alger
Photograph courtesy of the Fairfax County Public Library Photographic Archive
Enter the Typhoid Bacillus
A report on the origin of the spread of typhoid fever, issued after the war, identified eight states with infantrymen who were incubating the disease upon arrival at Camp Alger. Volunteers were drawn from various backgrounds throughout the country. They would have possessed inherently different patterns of immunity and were likely immune-compromised by the physical and psychological stress associated with deployment. Given these individual characteristics and the unsanitary conditions, the disease quickly exploded at Camp Alger and elsewhere.

Exposure to the bacterium, Salmonella typhi, typically results in signs of gastroenteritis producing diarrhea, fatigue, and fever. However, infection can manifest in a variety of ways from asymptomatic carriage to the systemic disease known as typhoid fever. Transmission primarily results from fecal contamination. The disease may last for weeks. Death is a common outcome, which was the case for many of the soldiers who contracted the disease at Camp Alger in the summer of 1898.

The State of Military Medical Care
The epidemic was enhanced by many factors. Members of the Army Medical Department, while competent professionals, were too few in number to adequately support the deployment. Medical officers had varying levels of experience. Those from larger state militias typically were familiar with military organization and medicine. Those from smaller state organizations did not have the experience needed to deal with the scale of the deployment. Purely advisors, medical officers lacked the authority to enforce sanitary measures. A deficiency in leadership was evident at some camps. At Camp Alger, regimental surgeons, preferring to maintain state allegiance, resisted efforts to consolidate resources into larger division hospitals, which may have improved care and treatment. Nursing skills were in critically short supply and basic sanitary measures were often ignored by undisciplined soldiers. Camp hospital staffs were often unskilled in the detection of typhoid fever. This deficit resulted in a delay in recognizing the outbreak when early cases were misdiagnosed as malaria.
The Outcome
Tallying morbidity and mortality data for all regiments passing through Camp Alger, there were 322 deaths attributed to typhoid fever from among the 2726 confirmed or probable cases. In the largest national camp, Camp Thomas in Georgia, 761 deaths were attributed to typhoid fever. It was as or more deadly to have passed through these two camps as it was to have faced enemy fire. Ultimately, during the Spanish-American War, every regiment would experience typhoid fever, nearly 1/5th of all soldiers would contract the disease, and over 86% of all deaths would be attributed to it. Some regiments would eventually carry the disease with them to Puerto Rico and Cuba.

The Aftermath
The McKinley administration faced considerable criticism on the handling of the war with Spain. Consequently, Secretary Alger resigned. President McKinley appointed Major General Grenville Dodge to lead a commission to investigate the War Department’s conduct. The Army Surgeon General, George Sternberg, organized his own sanitary commission. The latter’s Report on the Origin and Spread of Typhoid Fever in U.S. Military Camps During the Spanish War of 1898 is still regarded as a landmark in epidemiological studies. The recommendations issued by these two commissions would catalyze major reforms in the Army’s (and by extension the nation’s) medical system. By the onset of World War I, with improved understanding of disease transmission, better hygienic practices, and the advent of a vaccine, typhoid fever would largely be under control.