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PUBLIC AND PRIVATE VOICES: THE TYPHOID FEVER EXPERIENCE AT CAMP THOMAS, 1898

by

GERALD J. PIERCE

Under the direction of Wendy Hamand Venet

ABSTRACT

This dissertation examines the experience of those involved in the typhoid fever outbreak at Camp Thomas, Chickamauga National Military Park, Georgia between April and August 1898. Among American volunteer soldiers in the Spanish-American War, those stationed at this camp suffered the highest number of typhoid cases and deaths from typhoid. Treatments of the war have referred to the outbreak and some studies have examined it as part of wider subjects, but none from the standpoint of those involved, commanders, doctors, civilians, officers and enlisted men. The mobilized soldiers represented numerous states and reflected the disease experience of civilian society. The study considers the mobilization process, the disease outbreak and the aftermath.

INDEX WORDS: Spanish-American War Disease, Typhoid Fever, U.S. Volunteers, Walter Reed, Camp Thomas, Chickamauga

PUBLIC AND PRIVATE VOICES: THE TYPHOID FEVER EXPERIENCE AT CAMP THOMAS: 1898

by

GERALD J. PIERCE

A Dissertation Presented in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

in the College of Arts and Sciences

Georgia State University

2007

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2007

PUBLIC AND PRIVATE VOICES: THE TYPHOID FEVER EXPERIENCE AT CAMP THOMAS, 1898.

by

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DEDICATION

This work is dedicated to two remarkable women without whom the work would not have happened. They are Genevieve Henderson Pierce, my mother, who fostered in me a lifelong love of learning, and to Diane Jacobs Pierce, my late wife, who supported her "professional student" through two graduate degrees and the beginning of my doctoral program.

ACKNOWLEDGMENTS

All students of history recognize that their work rests on the shoulders of those who have come before. This work has benefitted from the support of numerous individuals and organizations. I begin with my dissertation committee. Doctor Wendy Hamand Venet has guided my studies throughout the doctoral program. Her support and guidance, coupled with a willingness to listen has made the learning process effective. Doctor Stuart Galishoff has lent his wide expertise in the field to public health and disease to keep me on track, suggesting additional sources and approaches. Doctor Charles Steffen has provided a keen eye for the structural organization and the overall context of my arguments.

Research facilities are key to the identification of source material. The staff of the William Russell Pullen Library at Georgia State University, in particular the interlibrary loan service, has made it possible for me to examine material from other, distant institutions. Mr. James H. Ogden III, historian at the Chickamauga and Chattanooga National Battlefield Park gave me insights into scholarship on the park and suggestions about research sources early in my research. The William S. Hench Walter Reed Yellow Fever Collection at the Health Services Library of the University of Virginia, Charlottesville has significant material pertaining to Walter Reed's life and military career. Mrs. Joan Echtenkamp Klein of this facility was most helpful with my research in this collection. The staff of the Chattanooga Public Library provided assistance with copies of the *Chattanooga News.* Dr. Richard J. Sommers of the U.S. Army Military History Institute in Carlisle, Pennsylvania gave me significant assistance in finding material. This facility has resources that are indispensable for a historian of United States military

history. The National Library of Medicine and in particular the staff of the History of Medicine Room facilitated my research into the literature on typhoid before and after the Spanish-American War. The staff of the National Archives was most helpful, even to escorting me into the storage area of that facility to examine documents of potential use. Finally, the Library of Congress staff was supportive of my research efforts in that facility

In addition, I must thank three other persons for their support of my research. My daughter, Renee, also a student of history, helped me with formatting and proofreading. My daughter, Patricia gave moral support for my efforts. Finally, my fiancee, Patricia Roth, was most understanding of the effort required and gave me her unstinting support through the final steps of the doctoral program.

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LIST OF ABBREVIATIONS

DCR	**U.S. Congress. Senate.** ***Report of the Commission Appointed by the President to Investigate the Conduct of the War Department in the War with Spain. 56th Cong., 1st sess., 1900. S. Doc. 221.*** **(Dodge Commission Report)**
TCR	***Report on the Origin and Spread of Typhoid Fever in U.S. Military Camps During the Spanish War of 1898.*** **2 vols. (Washington, D.C. GPO, 1904.) (Typhoid Commission Report)**

Chapter 1 -Introduction

"*Arma virumque cano*."

I sing of arms and a man.

Publius Vergilius Maro (Virgil)[1]

This is a story of soldiers, but not of battles. It is a story of men called to war who suffered, and in some cases, died, not from enemy action but from disease. It is a story of men who volunteered to serve their country, and what happened to them after they went into military service. The men represented every part of the United States, and their particular experience mirrored that of the civilian society from which they came. The conditions that prevailed represented those happening in different parts of the country, to greater or lesser degree, but the results of these conditions were worsened by their presence in large numbers in a fairly concentrated area. Their story has been told in part by historians studying the period, but no study has concentrated on the voices of these soldiers. Despite the use of the singular in the quotation above, Virgil's *Aeneid* dealt with the experiences of many men. This story also deals with the experiences of many men.

This study arose from a question. During research for a paper on newspaper coverage of the Spanish-American War in an urban history seminar, I was struck by numerous references to the purity of the water supply in Chattanooga, Tennessee. Further

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[1]**Virgil ,** *Aeneid,* **trans. John Dryden, The Harvard Classics 13 (New York: P.F. Collier & Son Company, 1909), 75.**

investigation revealed that United States Volunteer regiments assembled at Camp George H. Thomas near Chattanooga suffered an extensive outbreak of typhoid fever.[2]

This dissertation will examine the experience of people involved and how their participation related to the outbreak. I will also study the impact of the illness affecting almost one in every four soldiers at the camp on military and civilian medical care in the years after the war. All told, almost half of all military cases of typhoid fever during the Spanish-American War occurred at Camp Thomas.[3]

The outbreak, as an individual event, has not been studied extensively by scholars. Discussions of disease in the Spanish-American War literature have largely focused on yellow fever in Cuba and the medical care and disease research on that disease. The typhoid fever outbreak is treated in a summary manner in historical literature. There has been no study looking only at Camp Thomas, and the military units present during the outbreak.

I argue that the experience of those involved with the outbreak at Camp Thomas has not been studied in detail by using available sources, both government documents and contemporary accounts. Accounts to date have described the activity as part of a larger picture and have not isolated the mobilization, disease experience and the voices, both public and private, of those at Camp Thomas.

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[2] **The camp was located on the Chickamauga National Battlefield outside the city.**

[3] **Walter Reed, Victor C. Vaughan and Edward O. Shakespeare, *Report on the Origin and Spread of Typhoid Fever in U.S. Military Camps During the Spanish War of 1898.* 2 vols. (Washington, D.C. GPO, 1904), I:675. Hereafter cited as TCR . Total deaths from typhoid fever were 1,580, and those at Camp Thomas 761, or 48% of the total.**

There has been one monograph and a single article that specifically addressed the typhoid outbreak. The monograph dealt with both disease and wounds in the Spanish-American War as a whole. The article, written by two geographers, was concerned with the diffusion of disease. There has been no treatment of the outbreak as a separate event, and no attempt to place it in historic context with developments in either medical research or public health. Postwar changes in military organization, especially in the Army Medical Department, have been attributed to the outbreak, along with a number of other events during the war. This dissertation looks in greater detail at the experience of the soldiers and how the outbreak affected the understanding of the disease itself.[4]

The historiography of public health reflects the fact that the United States at the end of the nineteenth century was an extremely unhealthful country. Epidemics and outbreaks of various diseases were common, and the medical profession struggled to deal with them. There were significant gains in the understanding of disease. Robert Koch and others were able to prove the germ theory of disease by isolating and duplicating bacilli. Fernand Widal built on the work of others to create an effective test to identify typhoid. Books, articles and pamphlets were printed describing the effects of outbreaks and theorizing about the best treatment for diseases. [5]

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[4] **Vincent Cirillo, *Bullets and Bacilli: The Spanish-American War and Military Medicine*. (New Brunswick, N.J.; Rutgers University Press, 2004); Matthew Smallman-Raynor and Andrew D. Cliff, "Epidemic Diffusion Processes in a System of U.S. Military Camps: Transfer Diffusion and the Spread of Typhoid Fever in the Spanish-American War, 1898" *Annals of the Association of American Geographers,* 91(1), 2001.**

[5] **"Typhoid Fever" in *The Cambridge World History of Human Disease,* ed. Kenneth F. Kiple (Cambridge; Cambridge University Press, 1993.) ; Leon Gordis, *Epidemiology* (Philadelphia: Elsevier Saunders, 2004), 1074-1075.**

There are numerous printed items addressing typhoid. The general understanding of the disease before the Spanish-American War was that it was caused by pollution of water or milk. A selection of material is used in this study to show that typhoid was widespread in the U.S. civilian populace, and that pollution was viewed as the cause. No articles addressed typhoid in the military, but the Army's Annual Reports to Congress describe outbreaks at Army posts. During peacetime, the Army was a world separated from civilian society. The mobilization of volunteers from that unhealthful society and the grouping of large numbers of men from all over the country at a single site would prove to be a blueprint for disaster.

After the war, extensive written coverage of disease and research continued, but with an important difference. The role of flies as an agent in spreading the disease is widely described in the public health literature.

My initial question was: What happened to the soldiers at Camp Thomas during the outbreak of typhoid fever? This question is simple and direct, but the simplicity is deceptive. To understand what happened and why, a whole series of questions must be answered.

The questions deal with both military topics and health topics. As such, my study stands at the intersection of medicine and public health and the history of the military, more specifically military medicine. Regarding the military, there are a number of issues. Why were the troops sent to Camp Thomas? What kinds of military units were sent there? What military decisions preceded their deployment, and what actions were taken during and after the outbreak? Where were troops mobilized? What were health conditions at the mobilization sites? Who were the military and civilian leaders making the decisions? What

larger political issues influenced their decisions? How was the military organized at Camp Thomas? Who were the military leaders at Camp Thomas during the outbreak?

With regard to health topics, the following questions must be answered. What is typhoid fever? What was known about typhoid fever by the military and civilian medical community in 1898? What diagnostic tools were available, and what methods of treatment were in use? What medical resources were available at Camp Thomas and how were they organized? Who were the medical officers in charge and what was their background? How were medical officers selected for the units deployed to Camp Thomas? What training was available to them? What equipment did they have? What was the nursing and care capability and how was medical care organized? What actions were taken during the outbreak and afterwards to provide care and reduce the incidence of disease? How did the dimensions of the outbreak compare with U.S. military medical experience during peacetime, and during the Civil War? How many cases of typhoid fever occurred, and how many deaths resulted from the disease? How long did the outbreak last?

The voices of those involved will help to tell the story of what occurred. The testimony recorded by the Dodge Commission and the Typhoid Fever Commission includes that of military doctors, civilian doctors, military officers, enlisted men and interested civilians. In addition, reports, books, letters, manuscripts and newspaper stories offer access to the voices of those who experienced the typhoid outbreak.[6]

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[6]**U.S. Congress. Senate,** ***Report of the Commission Appointed by the President to Investigate the Conduct of the War Department in the War with Spain. 56th Cong., 1st sess., 1900. S. Doc. 221.*** **Hereafter cited as DCR.; TCR.**

The eight volumes of the Dodge Commission Report are a standard reference, and are routinely quoted in books and articles on the war. Previous historians have used them to support specific points in their arguments, but have not used the contents of the report as a source of soldiers' experiences. I propose to use the testimony differently, as one source for a variety of voices speaking about the experience at Camp Thomas. By studying the outbreak at Camp Thomas, I hope to bring out the impact on those stricken, their care givers and those who provided support.

What happened to the Army after the outbreak leads to additional questions. What was the longer term impact of the event on soldiers and officers? What conclusions resulted from the work of the two commissions? How was the military organized to meet future crises? What changes were made in military training? What steps were taken by the military medical leaders to prevent a repetition of the events at Camp Thomas in future mobilizations? What research was undertaken on typhoid fever and what were the results in the years following the war?

The United States Army had planned to expand the Regular Army in order to fight a war against Spain. Their plan was to expand existing Regular units by mobilizing an additional battalion in each regiment, staffing it with Regular officers and noncommissioned officers and training new recruits to fill the ranks. However, members of the National Guard were able to influence the legislation for mobilization so that units from the National Guard would be mobilized as U.S. Volunteers. Units electing to join together would then serve under their existing officers. More than forty-five thousand of these Volunteers were mobilized and sent to Camp Thomas. A board of officers was later established to study the typhoid outbreak and concluded that more than ten thousand of

these men had contracted typhoid fever, approximately twenty percent of those assembled at Camp Thomas.

To study this series of events, it is necessary to examine the way in which the Army was mobilized, and determine why the camp was established at Chickamauga. I will examine the organization of the Army's command structure and that of the Army Medical Department. Necessary elements of the study are the characteristics of typhoid fever and the state of knowledge of that disease in 1898. The occurrence of typhoid fever outbreaks in civil society both before and after the Spanish-American War demonstrate that typhoid fever was endemic and serve as a comparison with the military experience. The personalities involved in the response to the epidemic, both in command and in the Medical Department, must also be examined. The specifics of the outbreak; its timing, its extent and its results, as determined by the examining board give insights into the handling of the disease. Importantly, the descriptions of events by soldiers and in contemporary press accounts make the outbreak understandable to the reader more than a century later.

In addition to these accounts, there was a larger investigation made by the government of the conduct of the war. This commission, chaired by Major General Grenville Dodge, traveled to cities around the country and took testimony from soldiers, officers and civilians. The report of the commission is an invaluable resource. The two volume report of the Typhoid Fever Commission gives more technical details about the results of the outbreak. The troops at Camp Thomas had been dispersed to smaller camps by the time the commission began its study. But similar outbreaks occurred in other mobilization camps in Virginia (Camp Alger) and Florida (Camp Cuba Libre), and the commission was able to visit them and test men suffering from the disease to establish that

the ailment was really typhoid. The characteristics of the disease made it possible for doctors to mis-diagnose it as malaria.

After the war, the events at Camp Thomas had an effect on how the Army trained its officers, and stimulated research leading to an effective vaccine against the disease. The study conducted by the Typhoid Fever Commission has been described as a textbook epidemiological study, and one of the officers who served on the commission, Dr. Victor Vaughan, provided an excellent summary of what the doctors on this commission believed before they conducted the study, and what they concluded afterwards.

My study has eight chapters. This chapter states my argument, discusses primary sources and describes the applicable historiography.

Following this introduction, a second chapter presents the background leading to the War with Spain. It includes a description of the prewar army, with commentary on the relevant professional developments in the years between the Civil War and the crisis of 1898. This will be followed by a discussion of the war plans proposed by the Commanding General of the Army and the McKinley administration's attempt to implement them. The response of the United States Congress to these plans led to the call for mobilization of volunteer forces. I will discuss this mobilization and describe how the mechanics of volunteering were part of the reason for poor performance by volunteer units. State militias, often referred to as the National Guard, were offered the opportunity to enter Federal service as units, provided the majority of the unit members voted in favor. The Army Medical Department was professionally well qualified and trained, but too few in numbers to support the size of the mobilization. Medical officers with the volunteer units had varying amounts of military experience. On one hand, many medical officers in the

volunteer organizations, especially those from the larger, and hence well financed states knew military organization and medicine. Others had no experience at all, and even if skilled in medicine were not prepared for the administrative requirements of large military hospitals.

The third chapter discusses typhoid fever as a disease, and describe the state of medical knowledge of typhoid in 1898. I will also address the state of American health in 1898 and argue that typhoid fever was endemic in the United States. I will draw on contemporary descriptions of the outbreaks to show that the disease was found in numerous locations and appeared over a number of years. I will show that the disease struck major American cities, and was also found on isolated military posts. The state of knowledge includes the diagnostic methods for identifying typhoid. This is important, because the Typhoid Commission found that many, if not most cases were mis-diagnosed as malarial fever. The sciences of bacteriology and epidemiology were in their infancy, as was the development of public health systems. I will show that the Typhoid Commission conducted a classic epidemiological study, identifying the sources of disease and the methods of transmission. In addition, the board's studies led to a detailed description of the etiology, or life-cycle of the disease. I will address the issue of disease developing in the mobilized units before their arrival at Camp Thomas.

The fourth chapter begins with a description of the establishment of National Battlefields in the years following the Civil War. Local political figures wanted to commemorate the great battles of the War, and former Union and Confederate soldiers lent their support to these efforts. The last quarter of the nineteenth century was a time of civic "boosterism," in which local notables tried to attract business to their communities. In

Chattanooga, a major figure was Adolph Ochs, publisher of the *Chattanooga Times*. The process of selection for the camps of assembly is studied, and the role of civic influence noted. As the Army began to mobilize, Regular units were sent to the Chickamauga National Battlefield to train and prepare themselves for further services. Their experiences must be described as a prologue to the arrival of the volunteer organizations. I want to capture the sense of urgency that permeated American society, especially among those citizens involved with military affairs. I will describe the chronology of events preceding the outbreak and during the outbreak. I will examine contemporary newspaper accounts of the outbreak, using both southeastern papers and also those from the areas of mobilized units. Finally, I will deal with the movement of Volunteer units out of Camp Thomas into a variety of smaller locations.

The fifth and sixth chapters focus on the voices of participants. The two major commissions dealing with the outbreak captured contemporary responses. The Typhoid Commission, chaired by Major Walter Reed, accumulated information on the health of soldiers and the spread of the disease. The three doctors on the board were able to identify the incorrect diagnoses of malaria by doctors in Camp Cuba Libre in Fernandina, Florida by testing several groups of soldiers. By the time the board was established, the units assigned to CampThomas had been sent to other, smaller camps, so the board's studies had to be made from medical records. Nonetheless, the board came to some key conclusions about typhoid fever, in some cases changing their own previously held opinions. The Dodge Commission examined the role of the War Department during the war, and gathered testimony at sites across the country. They interviewed civilians, soldiers, officers and

military and civilian doctors. The report of the Dodge Commission is invaluable because it gathered testimony soon after the events, and recorded both sides of the story.

In addition to the major reports, the voices of participants and contemporary observers are also found in newspapers, memoirs, personal papers and government reports. These additional primary source materials allow a fuller picture of how the disease was experienced, and how it was presented to the larger public through the voice of the press.

A case in point is the story of Luther Bailey, a typhoid fever victim while he was stationed at Camp Thomas with the First Vermont Volunteer Regiment. Bailey was delirious most of the time he was in the hospital, but his brother, Frank Bailey came to aid in his care. Frank made a series of observations about medical care in his testimony before the Dodge Commission. We can contrast his description of conditions with that of Major R. Emmet Giffin, the officer in charge of the hospital. Major Giffin took strong exception to Frank Bailey's comments and testified to the board that Bailey lied about what went on in the hospital. [7]

The seventh chapter deals with the aftermath of the outbreak and its impact. Regimental histories captured more detail on the experiences of soldiers during the outbreak. The Army emphasized sanitation in its documents and training in the years following the war. Both military and civilian researchers tried to create a vaccine against the disease. When the vaccine was created, the Department of the Army manufactured it and supplied it to the other services and to government departments. Russell Alger, the

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[7]DCR, 4: 827-830,5:1603-1616.

Secretary of War, resigned from the cabinet of President William McKinley. His successor, Elihu Root, carried out significant reorganizations of the military establishment, using the Dodge Commission recommendations as one of his sources of information. In addition, Surgeon General O'Reilly, who followed Sternberg in office, took the recommendations of the Typhoid Commission as his guide in reorganizing the Army Medical Department. When the Army established the Office of the Chief of Military History during the late 1960s, one of the projects it undertook was a questionnaire sent to all surviving Spanish-American War veterans. The responses to the questionnaire by veterans then in their 80s or 90s, give a different perspective to the events at CampThomas. This historic memory adds the voices of participants remembering those things they found most significant. I believe this study has rarely been used as a source.[8]

The final chapter describes my conclusions. The explanation of what happened and why finds a multitude of causes. My analysis of the testimony and of contemporary accounts balances the statements found in official records. I summarize what I have found and note my final conclusions.

The study touches on two major thematic areas, each with its own corpus of material. The first is works addressing the military aspects of the period, and the second is those focusing on medical and public health developments.

To date, scholarship specifically addressing the outbreak of typhoid at Camp Thomas is represented by two works. The most recent monograph is Vincent Cirillo's

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[8] **Stanhope Bayne-Jones**, ***The Evolution of Preventative Medicine in the United States Army, 1607-1939*** **(Washington, D.C.: Office of the Surgeon General, Department of the Army, 1968)**, **127-128.**

***Bullets and Bacilli: The Spanish-American War and Military Medicine*. This work touches both civilian and military medicine. The scope of this work is broader than mine. Cirillo addresses the Army and its Medical Department and typhoid fever, but also examines the issues of contaminated food, yellow fever and the Dodge Commission Report. He looks at the use of X-rays and the impact of modern weapons technology on wounds. In an interesting chapter, Cirillo looks at the experience of the British Army with typhoid during the Anglo-Boer War. The British had many more casualties from typhoid and experimented with an anti-typhoid vaccination.[9]**

Another recent item is an article by two British geographers. Their interest is in the diffusion processes of epidemics. Matthew Smallman-Raynor and Andrew D. Cliff, "Epidemic Diffusion Processes in a System of U.S. Military Camps: Transfer Diffusion and the Spread of Typhoid Fever in the Spanish-American War, 1898" They studied the spread of typhoid fever associating it with the movements of infected regiments from camp to camp. They also modeled the diffusion process that drove the disease to spread. The work is part of a five-year program of research entitled *Disease in War, 1850-1990: Geographical Patterns Spread and Demographic Impact*. A key discovery is that regiments began developing typhoid cases in their state assembly camps and that twenty-nine regiments assembled at Camp Thomas and reported their first cases of the disease there shortly after arriving. The incubation period for the disease is eight to fourteen days, and a table lists arrival dates at Camp Thomas and the date of the first reported typhoid cases. The authors argue that most, if not all regiments were infected at their assembly camps. Thus, an

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[9] **Cirillo, *Bullets and Bacilli.***

examination of the outbreak must look at the contemporary civilian medical experience. This insight is important and I will use it in studying the mobilization camp experiences.[10]

A valuable recent work addressing the military aspects of the war is Graham Cosmas' *An Army for Empire: The United States Army in the Spanish-American War.* He examines the organization of the War Department and the Army in 1898, and traces the development of military policy during the years preceding the war. His treatment notes that the plan developed by the Commanding General of the Army, Nelson A. Miles, to expand the Regular Army was overtaken by political pressure and superseded by calls for volunteers from the individual states. The organization and training of state militias differed, and their equipment was not uniform. This description gives an indication of why the experience at Camp Thomas was chaotic, with ill-trained volunteers and inexperienced civilian doctors. Cosmas reviews the organization of the Army's support systems, and then describes the actual combat in Cuba and Puerto Rico. His chapter entitled "Sickness and Scandal" treats the typhoid outbreak lightly. Even so, his coverage is more extensive than that of other studies of the war. Cosmas also wrote an introduction to the 1993 reprint of the two volume series of telegraphic messages sent by the Adjutant General during the Spanish-American War and Philippine Insurrection. [11]

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[10] **Matthew Smallman-Raynor and Andrew D. Cliff, "Epidemic Diffusion Processes in a System of U.S. Military Camps**".

[11] **Graham A. Cosmas, *An Army for Empire: The United States Army in the Spanish-American War.* (Columbia, Mo.: University of Missouri Press, 1971)** ; ***U.S. War Department. Correspondence Relating to the War with Spain and Conditions Growing out of the Same, Including the Insurrection in the Philippine Islands and the China Relief Expedition, Between the Adjutant -General of the Army and Military Commanders in the United States, Cuba, Porto Rico, China and the Philippine Islands from April 15, 1898 to July 30, 1902* . 2 vols. Reprint., (Washington, Center of Military History, U.S. Army, 1993**)

Edward M. Coffman has published two volumes on the U.S. Army in peacetime. His first work, *The Old Army: A Portrait of the American Army in Peacetime, 1784-1898* gives a picture of Army life with sections devoted to officers, enlisted men and women and children. He has some excellent information on disease rates in peacetime. This information supports the argument that the Regular Army had experience in dealing with typhoid. The second treatment, *The Regulars: The American Army, 1898-1941* also addresses Army life. It notes developments including reorganization and changes in management of the Army. The term of Elihu Root as Secretary of War was notable for such changes. [12]

Russell F. Weigley's *History of the United States Army* is a standard work. It focuses on the institutional evolution of the Army, command problems and relationships, weapons and tactics and the organization of combat forces. This 1967 work is comprehensive within those areas, but does not have extensive coverage of disease issues. It provides a framework for discussion of postwar changes resulting from the experience of dealing with the typhoid outbreak.[13]

William Addleman Ganoe also produced a work entitled *The History of the United States Army* in 1942. This was an updated version of Ganoe's 1924 work. A general

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[12] **Edward M. Coffman, *The Old Army: A Portrait of the American Army in Peacetime, 1784-1898* (New York: Oxford University Press, 1986) _____, *The Regulars: The American Army, 1898-1941* (Cambridge, MA: The Belknap Press of Harvard University Press, 2004)**

[13] **Russell F. Weigley, *History of the United States Army* (Bloomington: Indiana University Press, 1984)**

history like that of Weigley, it too has little to say about disease. Ganoe does discuss the changes made by Elihu Root as Secretary of War. The work is organized chronologically, with dates of events appearing in the margin.[14]

Another work on the Army is Vernon Pizer's *The United States Army.* Pizer says his work is not a history but rather a portrait of the Army as an element of the United States Government. He makes minimal reference to the Spanish-American War, but does discuss the reforms instituted by Elihu Root as Secretary of War.[15]

A classic history of the Spanish-American War is Walter Millis' *The Martial Spirit* published in 1931. It is a political and military history, and lacks footnotes to support Millis' arguments. Millis is regarded as one of the creators of the "New Military History." His work focuses more on institutions, military thought and the roles of the military in conjunction with politics and the larger society. It describes the development of professionalism in the military between 1865 and 1914. This development mirrors advances in the professional status of medicine during the same period.[16]

Another classic reference is Samuel P. Huntington's *The Soldier and the State.* He describes the work as an analysis of tensions caused by military professionalism and the demands of national security. His chapter on the creation of the American military profession traces the development of military institutions from the end of the Civil War

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[14] William A. Ganoe, *The History of the United States Army* (New York: D. Appleton and Company, 1924.; D. Appleton-Century Company, 1943.) Citations are to the 1943 edition.

[15] Vernon Pizer, *The United States Army* (New York: Frederick A. Praeger Publishers, 1967)

[16] Walter Millis, *The Martial Spirit* (The Literary Guild of America, 1931)

through the creative activities of William T. Sherman, Emory Upton and, for the Navy, Admiral Stephen B. Luce. Sherman was able to establish military training schools without legislation by using only current garrison operating funds. Huntington shows that the Army had a core of highly trained officers, including those in the Medical Corps. [17]

Emory Upton was one of the key military thinkers during the period between the end of the Civil War and 1898. He published two works. His first work was *The Armies of Asia and Europe.* This work was based on his international trip to gather information for the Army on the military capabilities of foreign armies. The second, *The Military Policy of the United States* is a scathing examination of the conduct of the Civil War. Upton is noted for his recommendation of the formation of a General Staff and his intellectual influence on Elihu Root, who reformed the U.S. military after the Spanish-American War. [18]

Three works published under Army auspices provide more detailed information. Marvin Kreidberg and Merton Henry wrote *History of Military Mobilization in the United States Army, 1775-1945* , John C. Sparrow authored *History of Personnel Demobilization in the United States Army* and Erna Risch prepared *Quartermaster Support of the Army: A History of the Corps, 1775-1939.* Kreidberg and Henry give perspective to the period between the end of the Civil War and the mobilization for the Spanish-American War. They describe the plans for mobilization. Sparrow notes the practice of placing soldiers who were

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[17] Samuel P. Huntington, *The Soldier and the State.* (Cambridge, MA: The Belknap Press of Harvard University Press, 1957)

[18] Bvt. Maj. Gen. Emory Upton, *The Military Policy of the United States, Senate Document No. 494 62d Congress, 1st session,* 1912; _____, *The Armies of Asia and Europe, Embracing Official Reports on the Armies of Japan, China, India, Persia, Italy, Russia, Austria, Germany, France, and England*.(NY: Appleton, 1878)

ill on furlough, allowing them to go home or to civilian sites in order to recuperate from disease. Risch discusses the role of the Quartermaster Corps in providing material. These works help in establishing the sequence of events during mobilization and demobilization and noting issues relating to the supply of materiel to the hospitals.[19]

The troops mobilized at Camp Thomas were provided by individual states. They included soldiers drawn from the organized militia or National Guard, as well as men enlisted directly from civil life. John K. Mahon's *History of the Militia and the National Guard* has a chapter dealing with the Spanish-American War and another on the postwar changes. Jerry M. Cooper's work *The Rise of the National Guard* has two chapters describing the developments between the end of the Civil War and 1898. A third offering, *The National Guard of the United States* by Elbridge Colby is a bound copy of a typewritten copy with numerous corrections in the text. Colby's first chapter deals with developments before 1903. This work is less useful than the others cited above. [20]

David Trask's 1981 work *The War with Spain in 1898* is extensively documented and addresses both political and military issues. President McKinley, who has been described by some historians as less than effective, receives favorable treatment from Trask. He also

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[19] **Marvin A, Kreidberg and Merton G. Henry, *History of Military Mobilization in the United States Army, 1775-1945* (Washington, D.C.: Center of Military History, U.S. Army, 1984); John C. Sparrow, *History of Personnel Demobilization in the United States Army* (Washington, D.C.: Center of Military History, U.S. Army, 1994); Erna Risch, *Quartermaster Support of the Army: A History of the Corps, 1775-1939.* (Washington, D.C.: Center of Military History, U.S. Army, 1989)**

[20] **John K. Mahon, *History of the Militia and the National Guard* (New York: MacMillan Publishing Company, 1983); Jerry M. Cooper, *The Rise of the National Guard*: *The Evolution of the American Militia, 1865-1920* (Lincoln, NE: University of Nebraska Press, 1997); Elbridge Colby, *The National Guard of the United States* (Manhattan, KS: Military Affairs/Aerospace Historian, 1977)**

examines the personal interrelationships between McKinley, Secretary of War Russell Alger and Commanding General Nelson Miles. Trask notes extensive press criticism of Surgeon General Sternberg at the time of the outbreak.[21]

There are a number of works focusing on military medicine. Two histories of the Army Medical Department give an overview of how the Army's medical services developed. Colonel P.M. Ashburn, a Medical Corps officer, published *A History of the Medical Department of the United States Army* in 1929. More recently, Mary C. Gillett published a four-volume work covering the history of the Army Medical Department from 1775 to 1941. The third volume, *The Army Medical Department 1865-1917,* covers the period of my study. Ashburn's work describes the outbreak in all of the assembly camps, and he also provides information on the Root reorganization. Gillett's 1994 work seems to defend the role of Surgeon General Sternberg and the Medical Department in her chapter on disease in the camps.[22]

Colonel Edgar Erskine Hume, also a Medical Corps officer, authored *Victories of Army Medicine: Scientific Accomplishments of the Medical Department of the United States Army* in 1942. It has valuable information on the evolution of medical care before the Spanish-American War. He cites water purification, typhoid fever vaccination and the establishment of Nursing and Hospital Corps as important advances. He provides an

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[21] **David F. Trask. *The War with Spain in 1898* (New York: Macmillan Publishing Co., Inc., 1981)**

[22] **P.M. Ashburn, *A History of the Medical Department of the United States Army* (Boston: Houghton Mifflin Company, 1929); Mary C. Gillett, *The Army Medical Department 1865-1917* (Washington, D.C.: Center of Military History, U.S. Army, 1995)**

excellent summary of the recommendations of the Dodge Commission with regard to the Army Medical Department. [23]

Mary Sarnecky's *A History of the U.S. Army Nurse Corps* was published in 1999. Colonel Sarnecky is a retired Army nurse. Nursing activities during the Spanish-American War are described in her opening chapter on the antecedents of the Army Nurse Corps. Female nurses were accepted during the Spanish-American War because there were few qualified Hospital Corps men to perform nursing duties. Sarnecky notes their experiences in places like Camp Thomas and says they proved to be effective in giving care to the large numbers of typhoid victims.[24]

Surgeon General Sternberg is certainly a key figure, and there are two biographies describing his life. The first, *George M. Sternberg: A Biography* was written by his second wife, and collaborator Martha L. Sternberg and was published in 1920. It has excellent and detailed information on the actions taken by Sternberg during the Spanish-American War, and the criticism he received during the outbreaks. Mrs. Sternberg notes that the future Surgeon General had typhoid fever at the end of the Civil War. The second work, *Soldier in White* was written by John M. Gibson and published in 1958. It also has information of

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[23] **Edgar Erskine Hume, *Victories of Army Medicine: Scientific Accomplishments of the Medical Department of the United States Army* (Philadelphia: J.B. Lippincott Company 1943)**

[24] **Mary T. Sarnecky, *A History of the U.S. Army Nurse Corps* (Philadelphia, University of Pennsylvania Press, 1999)**

value on Sternberg's actions during his term in office. Both works appear to be well balanced and do not seem to be hagiography. [25]

A more direct response to criticism is found in Surgeon General Sternberg's *Sanitary Lessons of the War and Other Papers,* published in 1912. It is a collection of essays and speeches made by Sternberg. Two essays are notable; the first, with the same title as the book, gives important details of the disease experience during the war, while the second is a direct response to criticism by Theodore Roosevelt. The work is valuable as an example of the words of Sternberg. His reply to Roosevelt is tempered and polite, but direct in pointing out errors in Roosevelt's article in the *Century Magazine* in 1899. Sternberg's reply was never published in the *Century Magazine.* [26]

The postwar experience is well described by Dr. Stanhope Bayne-Jones in *The Evolution of Preventative Medicine in the United States Army, 1607-1939* published in 1968. He reviews the Spanish-American war experience. In an appendix, he also provides the entire text of the chapter on the etiology of typhoid fever from the abstract version of the Typhoid Fever Commission report. This document sums up the findings of the commission and notes the role of flies as a disease spreading agent. [27]

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[25] **Martha L. Sternberg, *George M. Sternberg: A Biography* (Chicago: American Medical Association, 1920) ; John M. Gibson, *Soldier in White* (Durham, NC: Duke University Press, 1958)**

[26] **George Miller Sternberg, *Sanitary Lessons of the War and Other Papers* (Washington, D. C. Press of Byron S. Adams, 1912)**

[27] **Bayne-Jones, *Evolution of Preventative Medicine.***

A standard source for military historians in search of quotations is Robert Debs Heinl, Jr.'s *Dictionary of Military and Naval Quotations.* Colonel Heinl is a retired Marine officer and his work provides authors with material organized by keyword. [28]

Two works address the role of the press in the period leading to and during the war. Marcus Wilkerson's *Public Opinions and the Spanish-American War: A study in War Propaganda* examines the rush of sensational journalism promoting the war. The "yellow press" was active and present. Newspapers provide significant insights into daily events. Joseph E. Wisan's *The Cuban Crisis as Reflected in the New York Press (1895-1898)* traces the growth of war sentiment. [29]

Two other works examine the life of a key player in the events at Chickamauga. Adolph Ochs was the publisher of the New York *Times*. He had worked his way up in the newspaper world, beginning in Knoxville, Tennessee and, at the time of his purchase of the New York *Times*, was the publisher of the *Chattanooga Times*. He was active in the movement to establish a national military park at Chickamauga and lobbied to have troops stationed there at the onset of war. Gerald Johnson's 1946 biography *An Honorable Titan: A Biographical Study of Adolph S. Ochs* was followed by Doris Faber's work *Printer's Devil to Publisher: Adolph A. Ochs of the New York Times* in 1963. Mrs. Faber worked for the *Times* after Mr. Ochs' death. Both works have elements of hagiography, but Ochs' career was

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[28] **Robert Debs Heinl, Jr, *Dictionary of Military and Naval Quotations* (Annapolis, MD: U.S. Naval Institute, 1966.)**

[29] **Marcus M. Wilkerson, *Public Opinions and the Spanish-American War: A Study in War Propaganda* (New York: Publisher Unknown, 1932 Reissued Russell & Russell 1967); Joseph E. Wisan, *The Cuban Crisis as Reflected in the New York Press (1895-1898)*. Ph.D. diss., Columbia University, 1934.**

remarkable enough to merit attention. Ochs remained as publisher in Chattanooga although he lived in New York during the war. [30]

The three members of the Typhoid Fever Commission might have been the subject of biographies, but two of them died while the report of the commission was being prepared. Dr. Edward O. Shakespeare died in June 1900, shortly before the abstract version of the Commission's report was to be published. Dr. Walter Reed died in November 1902, and the final version of the report was not released until 1904. The surviving member, Dr. Victor C. Vaughan, went on to have a long and successful career serving as Dean of the medical school at the University of Michigan. Fortunately for this research, he wrote his autobiography, *A Doctor's Memories,* in 1926, and included a chapter on the Typhoid Fever Commission. Dr. Vaughan states the views held by the members of the commission about typhoid both before and after the commission performed its study. This statement is a key element in the argument that the view of typhoid changed as a result of the commission's studies. [31]

Walter Reed's life has been the subject of three works. Albert E. Truby wrote *Memoir of Walter Reed: The Yellow Fever Episode.* Despite the title, Truby discusses other activities, notably describing his examination for admittance as an Army medical officer. Walter Reed was one of the examiners, and Truby's description of the process supports the contention that the Army enforced high standard in selecting doctors. William Bean's

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[30] **Gerald W. Johnson, *An Honorable Titan: A Biographical Study of Adolph S. Ochs (*New York: Harper & Brothers Publisher, 1946*);* Doris Faber, *Printer's Devil to Publisher: Adolph A. Ochs of the New York Times* (New York: Julian Messner, Inc., 1963)**

[31] **Victor C. Vaughan, *A Doctor's Memories* (Indianapolis: The Bobbs-Merrill Company Publishers, 1926)**

Walter Reed; A Biography **covers Reed's entire life, but devotes the majority of text to his military career. John R. Pierce and Jim Writer collaborated to produce** ***Yellow Jack: How Yellow Fever Ravaged America and Walter Reed Discovered its Deadly Secrets.*** **Again, they describe Reed's early life in a few pages. The authors make reference to Reed's intention to complete the Typhoid Commission Report after Shakespeare's death.**[32]

Some of the key decisions affecting the war were made by President William McKinley. Margaret Leech's ***In the Days of McKinley*** **discusses the President's role in administering the war effort, and also notes Sternberg's activities in handling disease in the mobilization camps.** [33]

One of the most important figures in the planning and mobilization for war was the Commanding General of the Army, Nelson A. Miles. Virginia Wiesel Johnson wrote ***The Unregimented General: A Biography of Nelson A. Miles*** **in 1962. Miles was well connected politically, because his wife was the niece of both retired General William T. Sherman and Ohio Senator John Sherman. In 1998, Peter R. DeMontravel published another biography of Miles.** ***A Hero to His Fighting Men: Nelson A. Miles, 1839-1925*** **offers a description informed by more current scholarship. Miles was by all accounts a combative and irascible man, but his actions before the war in attempting to organize the Army's forces were thwarted by the decision of Congress to call for volunteers. He pointed out the danger of**

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[32] **Albert E. Truby,** ***Memoir of Walter Reed: The Yellow Fever Episode*** **(New York: Paul B. Hoeber, Inc., 1943**); **William B. Bean.** ***Walter Reed; A Biography*** **(Charlottesville: University of Virginia Press, 1982.); John R. Pierce, and Jim Writer.** ***Yellow Jack: How Yellow Fever Ravaged America and Walter Reed Discovered its Deadly Secrets*** **(Hoboken, NJ: John Wiley and Sons, Inc., 2005)**

[33]**Margaret Leech**. ***In the Days of McKinley*** **(New York: Harper and Brothers, 1959)**

yellow fever in his letters and reports. The precipitous departure of U.S. troops from Cuba when yellow fever broke out proved his concern to be warranted. A third biography, *The Search for General Miles* by Newton F. Tolman lacks both bibliography and notes. Tolman criticizes both Walter Millis and Margaret Leech for their portrayals of Miles. The absence of scholarly apparatus and the combative tone of his comments make this book less valuable. The overall tone of Tolman's work is hagiographic. [34]

Another key figure was the Secretary of War, Russell A. Alger, who wrote *The Spanish-American War* in 1901, giving his side of events. He and Miles differed on the roles of the Secretary of War and the Commanding General. The roles were not specifically defined in law, and each man felt that he should be the one to issue orders and direct operations. Miles later wrote his version of events in *Serving the Republic*, published in 1911.[35]

There have been a few works on individual regiments. Two that deal with units that are lesser known are Clifford P. Westermeier's 1958 work *Who Rush to Glory: The Cowboy Volunteers of 1898* and Otto L Sues' 1900 *Grigsby's Cowboys*. Westermeier deals with the three volunteer cavalry regiments. The First U.S. Volunteer Cavalry is known to all as the Rough Riders, but Westermeier also describes the Second U.S. Volunteer Cavalry,

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[34] **Virginia Weisel Johnson. *The Unregimented General: A Biography of Nelson A. Miles (*Boston: Houghton Mifflin Company, 1962*) ;* Peter R. DeMontravel, *A Hero to His Fighting Men: Nelson A .Miles, 1839-1925* (Kent, OH.: The Kent State University Press,1998); Newton F. Tolman, *The Search for General Miles* (New York: G.P.Putnam's Sons, 1968)**

[35] **Russell A. Alger, *The Spanish-American War* (New York: Harper and Brothers Publishers, 1901.) ; Nelson A. Miles, *Serving the Republic: Memoirs of the Civil and Military Life of Nelson A. Miles* (Freeport, NY: Books for Libraries Press, 1971**.)

known as "Torrey's Riders" and the Third U.S. Volunteer Cavalry, called "Grigsby's Cowboys." Torrey's regiment was formed with contingents from Colorado, Idaho, Nevada, Utah and Wyoming. Grigsby's unit had groups from Nebraska, North Dakota, Montana and South Dakota. Torrey' men were sent to Jacksonville and Grigsby's to Chickamauga. Neither saw action during the war. Sues was the adjutant of Grigsby's regiment and published his work with interesting details about the regiment and its leaders. Both works give access to the voices of soldiers. [36]

Works on the medical side fall into two classes. First, there are those describing public health activities, and second those describing disease outbreaks.

John Duffy's 1990 work *The Sanitarians: A History of American Public Health* is an excellent history of the development of public health. He focuses on the period from 1830 to 1930. He notes increasing efforts during the Gilded Age to improve sanitation culminating im initiatives at all levels of government during the Progressive period. Duffy uses a broad definition of public health encompassing all forms of community action to avoid disease and health threats to individuals and the community. Duffy takes a wide geographical approach, noting regional variations in health conditions and responses. He portrays the period between 1880 and 1930 as the golden age of American public health. Duffy also authored *The Healers: The Rise of the Medical Establishment*. This work discusses disease experience

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[36] **Clifford P. Westermeier, *Who Rush to Glory: The Cowboy Volunteers of 1898* (Caldwell, Idaho: The Caxton Printers, Ltd., 1958.) ; Otto L. Sues, *Grigsby's Cowboys* (Salem, SD: Salem Special Printing and Publishing Establishment, 1900.)**

throughout American history. Duffy also discusses the changes in medical education and the understanding of disease in the period between the Civil War and the end of the century.[37]

Another source for U.S. medical history is Francis R. Packard's *History of Medicine in the United States*. This two-volume work was printed in 1931 and reprinted in 1963. P.M. Ashburn, whose work has been cited above contributed a chapter on the Medical Department of the Army from the Revolution to the end of the Spanish-American War. Commander R. P. Parsons, a Navy doctor contributed a similar chapter on the history of the Medical Department of the U.S. Navy. Parsons notes the impact of anti-typhoid vaccination on Navy death rates. Packard also listed the differentiation of typhus from typhoid in his chapter on notable events in medicine and surgery. Packard's work is valuable is providing historical context for developments in the medical field between the Civil War and the Spanish-American War. [38]

***The Deadly Truth: A History of Disease in America* by Gerald N. Grob gives statistics on infectious disease, noting that it was the major cause of deaths in 1900. Grob cites the medical history of the War with Spain as an example of this disease experience. [39]**

Martin V. Melosi authored *The Sanitary City: Urban Infrastructure in America from Colonial Times to the Present* Melosi discusses bacteriology, sanitation, water supply and

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[37] **John Duffy, *The Sanitarians: A History of American Public Health* (Urbana, IL: University of Illinois Press, 1990.) ; _____ ,*The Healers: The Rise of the Medical Establishment* (New York: McGraw-Hill Book Company, 1976.)**

[38] **Francis R. Packard, *History of Medicine in the United States*. 2 vols. (n.p. Paul B. Hoeber, Inc. 1931, New York: Hafner Publishing Co., Inc. , 1963.)**

[39] **Gerald N. Grob, *The Deadly Truth: A History of Disease in America*. (Cambridge, MA: Harvard University Press, 2002)**

sewerage during the period from 1880 - 1945 in his chapter "The Bacteriological Revolution." He cites data on typhoid death rates in a number of U.S. cities. A sharp decline in these rates occurred between 1900 and 1922, reflecting better sanitation and prevention practices.[40]

Supplementing these wider views are a series of studies of disease and public health in different areas of the United States. Stuart L. Galishoff has studied the city of Newark, New Jersey in his two works, *Newark: The Nation's Unhealthiest City, 1832-1895 and Safeguarding the Public Health: Newark, 1895-1918.* Both works describe the struggles of a city to remove the sources of diseases and improve public sanitation. The pollution of both water and milk contributed to the disease problem in Newark. Galishoff also wrote "Triumph and Failure: The American Response to the Urban Water Supply Problem" in Martin V. Melosi's collection of essays *Pollution and Reform in American Cities, 1876-1930.*[41]

Several works deal with the politics of public health. Books include Judith Walzer Leavitt's *The Healthiest City: Milwaukee and the Politics of Health Reform*. Leavitt also wrote *Typhoid Mary: Captive to the Public's Health*. Barbara Rosenkrantz' *Public Health*

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[40] **Martin V. Melosi ,*The Sanitary City: Urban Infrastructure in America from Colonial Times to the Present* (Baltimore: The Johns Hopkins University Press, 2000)**

[41] **Stuart L. Galishoff, *Newark: The Nation's Unhealthiest City, 1832-1895 (*New Brunswick, NJ Rutgers University Press,1988.*) ;* _____, *Safeguarding the Public Health: Newark, 1895-1918.* (Westport, CT: Greenwood Press, 1975.) ; _____. "Triumph and Failure: The American Response to the Urban Water Supply Problem" in *Pollution and Reform in American Cities, 1876-1930,* ed. Martin V. Melosi (Austin: University of Texas Press, 1980.)**

and the State: Changing Views in Massachusetts, 1842-1936 **and Michael P. McCarthy's** ***Typhoid and the Politics of Public Health in 19th Century Philadelphia.*** [42]

In addition, there are dissertations by Carolyn G. Shapiro, "The Scientific Community and Typhoid Prevention: Public Health and the Chicago Drainage Case, 1900-1906" and Gerard Fergerson, "To Live Poor but Healthy: Typhoid and the Politics of Public Health in Boston, 1880-1920: A Thesis."[43]

The attitudes of the medical and public health profession before 1898 may be understood by several works published during that period. William Budd's 1873 treatise ***Typhoid Fever: Its Nature, Mode of Spreading and Prevention*** **is one. George Chandler Whipple and William T. Sedgwick's** ***Clean Water and the Health of Cities*** **highlights the importance placed on water purification and filtering.** [44]

Developments in the diagnosis and understanding of typhoid fever are noted in reports like Mark Wyman Richardson's 1898 address to the Massachusetts Medical Society

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[42] **Judith Walzer Leavitt,** ***The Healthiest City(*****Princeton: Princeton University Press, 1982.) _____ .** ***Typhoid Mary: Captive to the Public's Health*** **(Boston: Beacon Press, 1996.)** ***;*** **Barbara G. Rosenkrantz,** ***Public Health and the State*** **(Cambridge: Harvard University Press, 1972.) ; Michael P. McCarthy,** ***Typhoid and the Politics of Public Health in 19th Century Philadelphia.*** **(Philadelphia: American Philosophical Society, 1987.)**

[43]**Carolyn G. Shapiro, "The Scientific Community and Typhoid Prevention: Public Health and the Chicago Drainage Case, 1900-1906." Ph.D. diss., Yale University,1993.**; **Gerard Fergerson, "To Live Poor but Healthy: Typhoid and the Politics of Public Health in Boston, 1880-1920: A Thesis."Ph.D. diss., Harvard University, 1994.**

[44] **William Budd.** ***Typhoid Fever: Its Nature, Mode of Spreading and Prevention*** **(1873 Reprint, New York: George Grady Press, 1931.); George Chandler Whipple, and William T. Sedgwick.** ***Clean Water and the Health of Cities*** **(Reprint, New York: Arno Press, 1977.)**

" Recent Progress in the Bacteriology of Typhoid Fever" and William Henry Welch's 1897 *Principles Underlying the Serum Diagnosis of Typhoid Fever and the Methods of its Application*. Ludwig Bremer offered *Typhoid Fever in the Light of Modern Research* in 1892 and William Francis Waugh published *Typhoid Fever* in 1891.[45]

Doctors continued to experiment with a variety of treatments for typhoid during the 1890s. One such course of treatment was developed by Dr. John Eliot Woodbridge. His 1896 work *Typhoid Fever and its Abortive Treatment* described his approach, which addressed the onset of disease and the high fever associated with it by immersion of the patient in water, bed rest and purgatives. He described this treatment as flying in the face of advice from experts, but claimed success with its use. Dr. John J. Orton described his experiences in using Woodbridge's methods his 1896 *Report of an Epidemic of Typhoid Fever and the Use of the Woodbridge Treatment*.[46]

Government reports include the *Report on Typhoid Fever in the District of Columbia, submitted to the Committee on the District of Columbia of the U. S. House of Representatives* in 1894. The Brooklyn Department of Health offered a pamphlet entitled *Typhoid Fever in 1885, Preliminary Report*. Lewis Harlow Taylor's *Report upon the Epidemic of Typhoid*

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[45] **Mark Wyman Richardson, "Recent Progress in the Bacteriology of Typhoid Fever" Read at the Massachusetts Medical Society, June 7, 1898. ; William Henry Welch, *Principles Underlying the Serum Diagnosis of Typhoid Fever and the Methods of its Application*(Chicago, 1897.) ; Ludwig Bremer, *Typhoid Fever in the Light of Modern Research* (St. Louis: Nixon-Jones, 1892.) ; William Francis Waugh, *Typhoid Fever* (Kalamazoo: Ihling Bros & Everard, 1891.)**

[46] **John Eliot Woodbridge, *Typhoid Fever and its Abortive Treatment* (Cleveland, OH: L. Leavengood and Company, 1896); John J. Orton,*Report of an Epidemic of Typhoid Fever and the Use of the Woodbridge Treatment* (Chicago, 1896)**

Fever, at Plymouth, Pa **was read to both the Luzerne County Medical Society of Wilkes-Barre and the State Medical Society of Pennsylvania during May 1885.** [47]

Works from the 1900s began to reflect the improved understanding of typhoid. A notable pamphlet printed by the Merchant's Association of New York in 1909 had a colorful title. ***The House-fly at the Bar: Indictment, guilty or not guilty?: Evidence in the Matter of the People Against the Common House-Fly*** **was intended for wide public distribution and listed all of the ways in which flies could spread disease. George Chandler Whipple authored** ***Typhoid Fever, its Causation, Transmission and Prevention*** **in 1908. Edwin Oakes Jordan's pamphlet** ***Typhoid Fever*** **was released by the Alberta Provincial Board of Health in 1918. Frederick Parker Gay's book** ***Typhoid Fever Considered as a Problem of Scientific Medicine,*** **also released in 1918 reviewed the effects of anti-typhoid vaccination. Frederick Fuller Russell published** ***Antityphoid Vaccination in the Army and in Civil Life*** **under U.S. government auspices in 1913.** [48]

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[47] **Medical Society of the District of Columbia,** ***Report on Typhoid Fever in the District of Columbia, submitted to the Committee on the District of Columbia of the U. S. House of Representatives. June 14, 1894.*** **Washington: GPO, 1894.; Brooklyn Department of Health,** ***Typhoid Fever in 1885, Preliminary Report*** **(Brooklyn, 1896.) ; Lewis Harlow Taylor,** ***Report upon the Epidemic of Typhoid Fever, at Plymouth, Pa.*** **Read to the Luzerne County Medical Society of Wilkes-Barre May 21st, 1885 and the State Medical Society of Pennsylvania May 29,1885**.

[48] **Merchant's Association of New York,** ***The House-fly at the Bar: Indictment, guilty or not guilty?: Evidence in the Matter of the People Against the Common House-Fly*** **(New York, 1909)** ; **George Chandler Whipple**, ***Typhoid Fever, its Causation, Transmission and Prevention*** **(New York: J. Wiley and Sons, 1908) ; Edwin Oakes Jordan,** ***Typhoid Fever*** **(Alberta: Alberta Provincial Board of health, 1918)** ; **Frederick Parker Gay,** ***Typhoid Fever Considered as a Problem of Scientific Medicine*** **(New York: The Macmillan Company, 1918.) ; Frederick Fuller Russell,** ***Antityphoid Vaccination in the Army and in Civil Life*** **(Washington: GPO, 1913**)

In 1927, The Illinois state Board of Health issued a two-volume study entitled *The Rise and Fall of Disease in Illinois*. It contained a history of public health activities and disease outbreaks, with information on epidemics in Chicago. The report also included data on milk-borne typhoid outbreaks during the 1920s.[49]

Two significant reports, published during the 1940s on the use of vaccination are worth noting. In 1941, studies conducted from 1934 to 1940 on typhoid fever by the Army Medical School were the subject of a monograph *Immunization to Typhoid Fever*. In 1949, H.C. Batson, Ph.D. published *Typhoid Fever Prophylaxis by Active Immunization* as a report for the U.S. Public Health Service.[50]

A monograph discussing typhoid fever would not be complete without a description of the disease. The American Public Health Association published *Control of Communicable Diseases in Man*, which contains a detailed description of the disease and recommended methods of treatment and control. The article "Typhoid Fever" in *The Cambridge World History of Human Disease* provides valuable information on the etiology and symptoms of the disease. The report of the Typhoid Fever Commission was an early and comprehensive epidemiological study. One issue is whether the disease occurring at Camp Thomas should be called an epidemic or an outbreak. The text *Epidemiology* by Leon Gordis defines the

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[49] **Illinois State Board of Health *The Rise and Fall of Disease in Illinois* (Springfield, 1927)**

[50] **U.S. Army Medical School, *Immunization to Typhoid Fever* (Baltimore: The Johns Hopkins Press, 1941) ; Herbert Clifford Batson, *Typhoid Fever Prophylaxis by Active Immunization* (Washington: GPO, 1949)**

term, and the definition supports my position that the events at Camp Thomas were an outbreak, rather than an epidemic. [51]

The next part of my study deals with the military background of the Spanish-American War. It establishes the basis for understanding how volunteer units were organized and how the Army's experience between the Civil War and 1898 influenced the mobilization for war.

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[51]**The American Public Health Association,** ***Control of Communicable Diseases in Man*****, ed. Abram S. Berenson, 15th ed. (Washington, DC: The American Public Health Association, 1990.)**; **"Typhoid Fever",** ***Cambridge World History of Human Disease,*** **ed. Kenneth F. Kiple** ; **Leon Gordis,** ***Epidemiology*** **(Philadelphia: Elsevier Saunders, 2004)**

Chapter 2 - Historical Background

"We should provide in peace what we need in war."

Publilius Syrus[1]

In order to understand the background leading to the War with Spain, one must first consider the military and its plans. I will address the pre-war army, commenting on the relevant professional developments in the years between the Civil War and the crisis of 1898,the Regular Army and National Guard, as well as the organization of the War Department and discuss the position of the Army Medical Department within the War Department organization. This chapter will conclude with a review of the war plans proposed by the Commanding General of the Army, the McKinley administration's attempt to implement them and the Congressional response.

The United States Army of 1898 had its roots in the Civil War. Many men who served in 1898 had gained their military experience in that conflict. At the end of the Civil War, the Army numbered over one million men. Seven months later, it had been reduced to about two hundred thousand. After a reorganization by Congress in 1866, the authorized strength was established at fifty-four thousand. Actual strengths reached just over fifty-six thousand during the Reconstruction period. With the end of Reconstruction, two successive reductions were made, first to forty-five thousand and then to thirty thousand men in 1869. In 1876, the strength was again reduced to just over twenty-seven thousand. The reduction in 1876 was carried out only after Commanding General William

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[1] **Robert Debs Heinl, Jr.,** ***Dictionary of Military and Naval Quotations*** **(Annapolis, MD: U.S. Naval Institute, 1966), 194.**

T. Sherman reassured the Congress that the reduced force was sufficient to cope with the Sioux in the wake of the Custer massacre. With only a small permanent military organization, most Civil War veterans were civilians. [2]

As the United States moved closer to war with Spain in late 1897 and early 1898, the United States Army was a poorly maintained small force. Although some military improvements had been made in terms of organization and the force itself was professional, requests for more funds and the development of a general staff had been brushed aside. Many civilian leaders carried the image of the Civil War as a force representing the contributions of states in defense of the Union. The struggles of that Union to develop an effective fighting force during the first years of the Civil War were conveniently forgotten.[3]

An example of the level of expectation illustrates the gap between belief and reality. Secretary of War Russell Alger spoke to a banquet of the Grand Army of the Republic, a Civil War veterans association, in August 1897. He described how the United States might react if faced with war against a European power. Alger said, "in thirty days we could put millions of fighting men in the field, and back them up with a wall of fire in the person of the veteran." His remarks were applauded by a friendly audience, but Alger was criticized in a New York *Times* editorial for "foolish bragging." The *Times* said that the United States

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[2] **Weigley, *History of the U.S. Army*, 262, 266-267; New York *Times*, "The Efficiency of the Army", May 28, 1876, 2; Ibid., "Sherman on the Indians", August 4, 1876, 5.**

[3] **Cosmas, *Army for Empire*, 29-33, 67-68; Weigley, *History of the U.S. Army* , 272-274, 204-216, 292.**

could offer no resistance to an invasion and that an enemy force could pass through the country freely once landed.[4]

The Secretary of War was a political appointee. Alger began his term in office on March 5, 1897. He had served in the Civil War, rising in rank from captain to colonel, then receiving brevet promotions to brigadier and major general. After the war, he was active in the lumber industry and became quite wealthy. In 1889, he was elected National Commander of the Grand Army of the Republic. He had been an early supporter of William McKinley's presidential aspiration, even loaning him his private railroad car for an election visit. In 1888, he was a candidate for President as a Michigan "favorite son." He was considered by Benjamin Harrison for the position of Secretary of War in Harrison's cabinet, but was not selected. Alger was active in supporting McKinley's run for the Presidency, and was rewarded for his loyalty with the appointment as Secretary of War.[5]

Historians have not been kind in their descriptions of Alger. William Addleman Ganoe confined his mention to listing Alger with other Secretaries of War in a table. Russell Weigley described Alger as "at best a mediocrity" and said that Alger's impulsiveness brought McKinley to the decision that he would have to assume direction of the war himself. Walter Millis said Alger was "on the whole a rather harmless individual"

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[4] **New York *Times*, "Mr. McKinley in Buffalo", August 25, 1897: Ibid., August 28,1897.**

[5] **Ganoe**, ***The History of the United States Army*, 532; Cosmas, *Army for Empire*, 55-57.**

and later "a mild-mannered inoffensive gentlemen". Graham Cosmas noted that Alger had little background in government or politics. Cosmas also noted that Alger was both vain and selfish, often engaging in feuds with his associates. Cosmas quoted Adjutant-General Henry Corbin, who described Alger as "the most egotistic man with whom I have ever come into contact."[6]

During the years immediately following the Civil War, the Army focused on Indian fighting. Between 1865 and 1898, the Army fought in nine hundred and forty-three engagements with various Indian tribes and accomplished its mission by dividing regiments and battalions into companies and stationing these companies at a multitude of small posts. By 1869, the Army manned two hundred fifty-five separate posts. The geographical distribution was effective in providing security, but it limited the opportunities for officers to gain experience in handling larger formations and planning operations.[7]

The Army's role began to change with the waning of Indian uprisings and the development of labor troubles. Between 1886 and 1895, the Army was involved in 328 assorted civil incidents in 49 states and territories. The Army responded with a program of concentration, so that by 1896 the number of posts had declined to 77. Posts were located close to rail lines, offering the capability to move quickly to locations where troops might be needed. With the concentration of units at fewer posts, the facilities at these posts

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[6] **Ganoe**, ***The History of the United States Army***, **532; Weigley, *History of the U.S. Army*, 305; Millis *The Martial Spirit*, 118, 160; Cosmas, *Army for Empire*, 58.**

[7] **Weigley, *History of the U.S. Army***, 267

were improved. This meant better capability for training soldiers, but also more desirable living conditions. Pay was also increased.[8]

By 1897, the Army's authorized strength was insufficient to man the number of regiments authorized, so two companies of each regiment were carried only on paper. Officers were assigned to these companies, but their duties were to act as instructors in military science at land grant colleges, and inspect National Guard encampments. [9]

Despite these limitations, some officers actively attempted to get modernizing changes implemented. The Military Service Institution of the United States was founded in 1879, providing a forum for discussion of such changes. As these ideas were articulated, some were incorporated into legislation by Congressmen. The Army also made progress in modernizing its weapons systems. A planning board in the 1880s recommended the reconstruction of fortifications in principal harbors. Legislation supporting this effort was not fully funded, but did allow the Army to develop its own gun factory. This facility would be able to produce modern rifled breech-loading steel artillery pieces. Although not all of the weapons planned for the coastal defense were purchased, the capability existed for their production. Private industry also expanded its capability to produce weapons and parts, recognizing the potential for government purchases under the coastal defense program. In addition to artillery, a board conducted a series of tests to choose new magazine rifles for use by the infantry and cavalry. In 1893, the Army began to issue its first weapon using smokeless powder, the Krag-Jorgensen. This weapon was similar in

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[8] Weigley, *History of the U.S. Army*, 261, 267, 281, 290; Cosmas, *Army for Empire*, 9 - 10; Ganoe, *The History of the United States Army*, 368.

[9] Cosmas, *Army for Empire*, 6, 67-68.

capability to weapons in use by contemporary European armies. Unfortunately, due to lack of funds, the military had only enough of these rifles to equip existing units, with few extras purchased for war reserve.[10]

During the 1880s, the Army instituted reforms to improve its system for promoting officers, among them a system of examinations for proficiency to determine qualifications for promotion up to the grade of major. The Army's promotion system was slow and ambitious officers attempted to gain promotion by assignments to staff positions, often in the military bureaus that directed support to the Army. [11]

In addition, the Army began to develop a system of professional education for officers. During the 1880s and 1890s, the Army created schools for the Infantry and Cavalry together, the Artillery, Engineers, Signal Corps and Hospital Corps. In addition, it established a Medical School to train doctors in military surgery. These schools were vocational in nature; that is, they taught the technical skills necessary for officers to perform their duties. By the 1890s, the School of Infantry and Cavalry at Fort Leavenworth began teaching a broader set of skills, namely those required to exercise high command. Students conducted exercises in the deployment and maneuver of regiments, brigades and divisions. [12]

The development of professionalism reflected trends in American society at this time. A professional had to have knowledge of a corpus of theoretical information that was

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[10] **Ibid.**, **7-8**.

[11] **Ibid, 8.**

[12]**Weigley**, ***History of the U.S. Army***, **273-274** ; **Cosmas,** ***Army for Empire***, **9.**

unique to his specific field. Advanced education of some type was one of the methods to establish the status of professional. One scholar has noted that almost all of the elements of professionalism in the American military came into being between the end of the Civil War and the beginning of the First World War. [13]

The idea of a general staff had existed as successive administrations realized that the military organizations needed some management structure. When John C. Calhoun served as Secretary of War between 1817 and 1825, he set up administrative bureaus and a logistical organization. He also created the position of commanding general. Calhoun rejected the idea of using militia as the basis for national defense and planned for the expansion of the peacetime Army as a response to war. This approach did not address a key issue, namely how to have trained soldiers available in time of need. [14]

The nation had not solved the issue by the beginning of the Civil War. President Abraham Lincoln encountered resistance from state governors in recruiting soldiers. Even after the amendment of the Militia Act of 1792 in 1862 to permit a draft , governors insisted on asking for volunteers rather than drafting men. In 1863 the Enrollment Act stated that the traditional militia had a national obligation. States continued to build militia units for control of local disorder, and several states called their militia the National Guard. The federal government had little to do with these units, and each state organized, trained and equipped them in whatever way it wished.[15]

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[13] **Reardon, *Soldiers and Scholars,* 2.**; **Huntington**, ***The Soldier and the State,* 237.**

[14] **Cooper, *The Rise of the National Guard,* 11.**

[15] **Ibid**.

Like the Regular Army, the state militias had undergone changes during the last two decades of the century. The major railroad strikes of the late 1870s had spurred some states to spend money to equip and maintain these militias. The term "National Guard" was used more frequently, with thirty-eight states using it to describe their militia forces by the end of the decade. Units were organized by the states and elected their own officers. They trained for a few days each month, and conducted a summer training encampment, usually about a week in length. States funded equipment, pay, armories and uniforms. The Federal government provided funds for each state, apportioning them based on the states' representation in Congress. It delivered them in the form of weapons and equipment. States varied widely in their level of support to their militia, and in the types and sizes of units. As might be expected, larger states developed bigger units and funded them more generously.[16]

Between 1873 and 1885, the total numbers of members of the National Guard varied. By 1897, the resources of the National Guard totaled 114,000 men. One hundred thousand of these were infantry, four thousand eight hundred cavalry, five thousand, nine hundred artillery and the rest assorted support troops. Five states organized their National Guard into divisions and another twenty-five states supported brigades. The balance of states had no units larger than a regiment.[17]

There was no legislation in place that covered the mobilization of the National Guard for purposes outside maintaining civil order, aiding in emergencies or repelling invasion. If

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[16] **Cosmas, *Army for Empire*, 10-11.**

[17] **Cooper, *The Rise of the National Guard*, 28.**

the President wished to call up the National Guard for a war, there were no precedents. Many Guardsmen believed they could not be mobilized for service outside the boundaries of the United States. [18]

The National Guard was poorly equipped with weapons. Most soldiers carried the single-shot Springfield rifle, which used black powder ammunition. When discharged, these weapons emitted a cloud of smoke. Against an opponent armed with smokeless powder weapons, this characteristic would be deadly, since the enemy could simply fire in the direction of the cloud of smoke and have a good chance of hitting troops. Training for the units was primarily confined to practicing close-order drill. Little instruction was given in marksmanship, as funds were usually lacking for ammunition. Soldiers were not instructed in the open-order battle tactics commonly used by European armies.[19]

National Guard units often seemed like social clubs. Annual encampments were the occasion for parades and parties. Little real training was accomplished, and discipline was lax. One Guardsman described the Pennsylvania National Guard as "happy-go lucky", with emphasis on enjoyment and elaborate uniforms[20]

The duties of the Regular Army during peace time were varied. In 1897, Secretary of War Alger reported to Congress on reorganization of the Infantry and progress on coastal fortifications. But he also reported on the exploration of Alaska, the National Soldiers' Home, Mississippi and Rio Grande flood relief. His report noted the need for a

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[18] **Cosmas, *Army for Empire*, 12.**

[19] **Ibid., 13.**

[20] **Cosmas *Army for Empire*, 13.**; **Cooper *The Rise of the National Guard*, 24.**

hall of records, improvements to rivers and harbors and monuments in the District of Columbia. His budget of $49 million was spread thin, and during peace time, often focused on civil needs.[21]

An anomaly existed in the control of the War Department. As a member of the cabinet, the Secretary of War would be the agent for implementing the administration's military policies. He had direct control over the army's "staff." This was the term used for the ten administrative and supply bureaus of the Army. The Commanding General of the Army also received his assignment from the President. Officers assigned to this duty were, in practice, the senior major generals in the Army. The Commanding General was in control of all "line" troops, infantry, cavalry and artillery. Orders for these units were supposed to pass through him.[22]

Major General Nelson A. Miles was the Commanding General of the Army. He assumed this position on October 5, 1895. He was born in Westminster, Massachusetts and came from a family that farmed for a living. He had ancestors on his father's side of the family who had served in King Philip's War and the American Revolution. From his boyhood, he wanted to become an Army officer. After completing his schooling, he took a job as a clerk in a crockery store. He spent his money on books about the military, and participated in an informal training program taught by a retired French officer. When the Civil War began, Miles realized that commissions would be given first to those with training or experience and waited until the first rush of volunteering had passed. He took

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[21] **Ibid., 14-15**

[22]**Cosmas *Army for Empire*, 20.**

his savings and borrowed money from an uncle to recruit a volunteer company. His men elected him as captain, but the Governor of Massachusetts voided his commission and gave the position to another, older man. [23]

Miles soon asked for a transfer to other duties and joined the staff of General Oliver O. Howard. Miles proved to be a daring leader, and was subsequently promoted, ultimately receiving a brevet promotion to brigadier general. He had been seriously wounded during the battle of Chancellorsville, and many years later would receive the Congressional Medal of Honor for his valor on the day he was wounded. After the war, he accepted a Regular commission as a colonel. He served for a number of years in the Western United States, including campaigns against the Indians.[24]

Miles was politically well-connected. In June of 1868, he married Mary Hoyt Sherman, who was the niece of both General William T. Sherman and Senator John Sherman. During his service in the West, Miles frequently wrote to General Sherman either to complain about inefficiency in the military or seek Sherman's help in pushing for advancement. Sherman was cautious about helping a relation, and he and Miles had at least one major spat over the issue. Miles was a successful commander and not shy about asking for positions which would enhance his promotion potential. The ultimate prize was Commanding General of the Army, and Miles was delighted when his seniority finally delivered this assignment. Miles was an aggressive, plain-spoken man, and this characteristic would prove troublesome for him. The Commanding General had to rely on

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[23] **DeMontravel**, ***A Hero to His Fighting Men***, **3-6.**

[24] **Ibid., 23-24, 52.**

tact and work smoothly with the Secretary of War to be most effective. The personalities of both Miles and Alger made this type of cooperation unlikely.[25]

The War Department administered of the Army through a series of eight departments covering specific geographical areas. Commanders of these departments could deploy their troops and control them in the field, or respond to directions from Washington. Federal law limited assembly of troops into any formation larger than a regiment. Department commanders did not control a number of installations which received their orders directly from the War Department. Examples of these included schools for officers, principal supply depots, arsenals and recruiting stations.[26]

Two key bureaus were the Adjutant General's Office and the Inspector General's Office. The Adjutant General was responsible for issuing all orders to troops in the field. It had charge of mobilizing the Regular Army, volunteers and the militia. The Inspector General's Office conducted periodic inspections of all Army facilities to determine compliance with regulations and orders and report any failures to higher authority.

The other bureaus were responsible for supply and logistical support, as well as research for new items of equipment or materiel. The Medical Department was one of three bureaus that had enlisted corps attached to it. (The other two were the Corps of Engineers and the Signal Corps.) The Medical Corps bought and issued all hospital supplies and contained the Hospital Corps. The Medical Department, Ordnance Department and Signal Corps all required candidates for appointment to pass

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[25] **Ibid., 60, 148-50, 226.**

[26] **Cosmas, *Army for Empire*., 15.**

examinations on both general education and professional skills. Once assigned to a Corps or bureau, an officer remained there for the rest of his career.[27]

All staff bureaus received their orders only from the head of their bureau, and the heads of the bureaus received orders only from the Secretary of War. Organizational theorists describe this type of management system as a "stovepipe" system. The impact of this system was that a commander in the field could not issue orders to his attached support personnel, but rather had to request that the orders be issued from the staff bureau.[28]

The Medical Department had been established in 1818. Medical officers initially had no military rank, but in 1847, legislation gave the Army Surgeon-General the rank of colonel. Surgeons received the rank of major, with assistant surgeons appointed as captains. Medical officers' duties included medical, sanitary and administrative tasks. Medical officers could command medical units or hospitals, but could not exercise command of units outside their department. Thus, medical officers were subject to the authority of line officers. Medical officers could only advise commanders on health issues, and commanders could accept or reject their recommendations.[29]

After the Civil War, the Medical Department, like the rest of the Regular Army, was reduced in size. During the Civil War, there had been 6,000 surgeons and 5,500 contract surgeons. By 1870, there were only 217 medical officers and 187 contract surgeons. The

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[27]**Ibid., 18.**

[28]**Ibid., 18-19.**

[29] **Cirillo, *Bullets and Bacilli*, 23-24.**

deployment of the Army to small posts meant that medical officers, like their counterparts in the Infantry and Cavalry, had little opportunity to advance their knowledge or practice medicine in larger facilities. In 1887, the Army established the Hospital Corps, a body of trained men attached to hospitals. About 700 soldiers made up the Hospital Corps in 1898. These soldiers were specially recruited and trained in first aid, stretcher-bearing, ambulance service and ward nursing. Members of this corps were detached for service at military posts and in support of troops in the field. This replaced the previous system of assigning men from line units to perform hospital duties they did not understand, and hence performed poorly. The Hospital Corps was a part of the Regular Army, and the National Guard had some similar units in the larger states. [30]

In 1893, Lieutenant Colonel George Miller Sternberg, was promoted over the heads of ten more senior officers to become the Surgeon-General, because of his international reputation as an expert bacteriologist and epidemiologist. Sternberg's career began with service as a doctor during the Civil War. He had recently completed medical school and established a practice in Elizabeth, New Jersey. After the war began, a family friend gave him a letter of recommendation and he was appointed an assistant surgeon. In July1861, he was captured by the Confederates after the Battle of Bull Run, but escaped and made his way back through Union lines. Later, Sternberg had occasion to practice emergency medical procedures when he performed an amputation while under enemy fire. He received a commendation for this heroic act. At Harrison's Landing, Virginia, the Union forces suffered an outbreak of typhoid fever, and some other ailments. Dr. Sternberg

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[30] Ibid., 25.

contracted typhoid, but recovered within a month. He and his fellow doctors established that the source of the disease was the re-use of dressings. When this activity was discontinued, the outbreak was ended. The fact that such a practice could even be considered gives evidence of the ignorance of basic sanitation at this time.[31]

After the war, Sternberg married a young woman from his home town of Cooperstown, New York and took her with him when he reported for duty at Jefferson Barracks, outside St. Louis. Shortly thereafter, he was assigned to Fort Harker, Kansas. The military post suffered an outbreak of cholera, and thirty-two men died between June 28 and August 1, 1867. Two out of three of those stricken died. Sternberg instituted a system of isolation for the patients and policing the garbage pits and latrines. This stopped the outbreak, but not before the disease also claimed his wife. They had been married for less than two years.[32]

Sternberg began to perform bacteriological experiments during his succeeding military assignments. He noted later that, to his knowledge, there was no bacteriological laboratory anywhere in the Army, and perhaps none in any American university or medical school. His studies were on his own time and at his own expense. He began to study microphotography with the objective of photographing slides with blood specimens. In September 1869, he married a woman named Martha Pattison, who shared his interest in science. [33]

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[31] **Cirillo, *Bullets and Bacilli*; Gibson *Soldier in White,*12-14, 18-28, 31-32.**

[32] **Ibid. , 31-36.**

[33] **Ibid., 37-40.**

Dr. Sternberg continued his research in the coming years, and his wife helped him with his work. In 1886, he wrote a paper he presented at the American Association of Physicians on the discovery of *Bacillus typhosus* in the tissues of typhoid fever patients by Karl Joseph Eberth in Halle, Germany. The discovery had occurred in 1880, and Sternberg wrote about the impact it was likely to have in attempts to eliminate typhoid fever. In 1885, he was selected to serve as the U.S. representative studying the efforts of doctors in Brazil and Mexico who claimed they had discovered a cure for yellow fever. Sternberg investigated both claims and found them not supported by fact. He would also participate in a series of experiments in Cuba attempting to isolate the yellow fever organism.[34]

In 1892 after his promotion to the rank of Lieutenant Colonel and assignment to San Francisco, Sternberg wrote the *Manual of Bacteriology.* Immediately this work became the standard reference book and textbook on the subject, published in an updated version in 1896. Sternberg was now nationally and internationally renowned.[35]

He was reassigned to New York in early 1892. Later that year, the local press expressed significant fear of the potential for a cholera epidemic. The fear was based on reports of a cholera outbreak in Hamburg and the fact that many vessels carrying immigrants landed in New York. Reports began in lat August 1892 when it was reported

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[34] **Ibid., 141-146, 148-152, 156-158.**

[35] **Ibid., 160-164.**

that the Hamburg-American Steamship Line was requiring all steerage passengers to undergo a medical examination before they would be permitted to board its vessels. [36]

On September 1, the Federal government issued a circular requiring all persons landing in New York undergo a period of twenty days quarantine. The members of New York's Chamber of Commerce wanted to be sure that the city's response to the threat was adequate. They asked the Surgeon-General to assign Sternberg to serve with Dr. Jenkins, the health officer for the Port of New York. Sternberg received a telegram assigning him to this duty, and this was followed by an official communication signed by Deputy Surgeon-General Greenleaf. He was responsible for testing the efficacy of the disinfection measures used. There was no disease outbreak, in spite of the fact that there were 17,000 cases of typhoid occurred in Hamburg, with 8.605 deaths.[37]

Contemporary press reports had little to say about Sternberg's role, but the New York *Times* made reference to it in an article reproducing a report made by the Chamber of Commerce on the handling of the cholera issue. The *Times* said the health officer was incompetent and waited too long to ask for help. Sternberg was mentioned as one of three specialists assigned by various Federal organizations to assist. The story said that Sternberg had acted as consulting bacteriologist. One of Sternberg's two biographers stated that he was actually in command of the health forces. Dr. Jenkins was grateful for Sternberg's "calm, practical, deliberate judgement."[38]

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[36] **New York *Times*, August 24, 1892, 1.**

[37] **Sternberg, *Sternberg: A Biography*, 128-129.**

[38] **New York *Times*, December 14, 1892, 9;** Gibson, ***Soldier in White*, 164-165.**

The Army Medical Corps was an elite body of men. At the time Sternberg became Surgeon-General, doctors wishing to gain appointment as an Army surgeon had to pass an extensive battery of tests. They had to demonstrate medical and scientific knowledge, but were also tested on history and literature. The demanding nature of these tests is proven by the failure rate. In 1897, 140 candidates tested for appointment - 6 were selected. [39]

Sternberg's first act upon receiving his appointment was to open the Army Medical School. This was to be a postgraduate institution designed to train physicians in the skills they needed to be competent Army doctors. Walter Reed was a member of the faculty of this institution, as were other well-known Army and civilian doctors. Among the skills they taught were bacteriology, military surgery for gunshot wounds and broken bones, antiseptic technique, sanitary chemistry, pathology, military hygiene, first aid, Hospital Corps drill, military law and bookkeeping (orders and requisitions). It is notable that the bacteriological studies included the bacilli for anthrax, diphtheria, tuberculosis and typhoid fever. Surgeon General Sternberg taught a course on the etiology and prevention of infectious diseases. The curriculum emphasize sanitation. The prospective military doctors had to include line officers in their discussions of soldiers' health in the hope that they would then assist by demanding compliance with sanitary regulations. Shortly after the course began, Sternberg extended its length by a month to five months. In the 1896-97 scholastic year, he added training in evacuation and management of wounded to the curriculum.[40]

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[39] **Cirillo, *Bullets and Bacilli,* 26.**

[40] **Ibid., 26-27.**

When Congress declared war in 1898, Surgeon-General Sternberg issued Circular No. 1, outlining sanitary rules and personal sanitation for soldiers in the field. It included a requirement for covering feces in camp sinks (latrines) with either fresh earth or quicklime, punishment of soldiers who did not use the sinks and disinfection of discharges (urine, feces) of fever patients. The circular noted that flies were a means of communication for various diseases. Clearly, the Medical Department of the Army knew how to create a sanitary camp environment.[41]

The development of staff organizations within the Army was irregular in nature. Positions were established during crises, and later eliminated or reduced. A brief overview will illustrate this pattern. During the early years of the Republic, Congress had established a number of staff positions required for the efficient operation of the Army. In 1797, legislation established the positions of Judge Advocate, Quartermaster-general and Paymaster-general. The legislation stated that these officers together with the brigadier general would form a "General Staff." In 1818, the office of surgeon-general was created.[42]

The position of Judge Advocate had been allowed to fall into disuse, and was re-established in 1849. Instead of detailing a line officer to perform this duty, the legislation required that an officer be assigned and formally study law in order to hold the position.[43]

The exigencies of the Civil War brought about an expansion of the whole military establishment. In 1861 legislation established five assistant inspector generals, an assistant

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[41] DCR, 1:604-605.

[42] Ganoe *The History of the United States Army,* 103, 151, 153.

[43] Ibid., 230.

secretary of war, and added ten surgeons and twenty assistant surgeons. It also provided an adjutant general with an expanded staff of nineteen assistants and a new chief of ordnance. The number of topographical engineers was expanded and female nurses were permitted. But none of the laws addressed the issue of unity of control or organization. The pattern of establishing staff positions as needed for war, and eliminating them afterwards continued.[44]

During the years following the Civil War, the Army began to move in the direction of professionalism. Brevet Major General Emory Upton was sent to Europe and Asia to study the armies of these countries. His report recommended a series of changes in military organization, with the most important one the establishment of a general staff. His report later became the basis for the reforms of Elihu Root as Secretary of War.[45]

This brief summary of major developments in staff positions is necessary, because at the outset of the Spanish-American War, the United States Army did not have an organization dedicated to planning for war. During the late 1880s, a Presidential request for information caused Adjutant General R. C. Drum to realize that the Army did not have the information and also had no way in which to obtain it. His response was to create the Military Information Division within the Adjutant General's office. It was organized by a General Order in April of 1889. Three years later, Drum's successor, William B. Elkins reorganized the office, placed it under the control of an officer selected by the Secretary of War, and assigned it a number of duties. These duties included information gathering,

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[44] **Ibid., 261-263.**

[45]**Emory Upton *The Military Policy of the United States*, iii.**

publishing and distributing maps and military books throughout the Army, corresponding with states on National Guard matters, instructing military officers abroad and collecting their reports and instructing Army officers detailed to train the militia. But the most important duty specified by Elkins was to formulate war plans for the mobilization of the Regular Army, militia and volunteers. Thus, this organization began to perform functions associated with a General Staff in other countries. Like the rest of the Army, the office was chronically underfunded. Although the Congress had not allowed a general staff to develop, the Adjutant General had begun to assemble the capabilities for such a staff in the Military Information Division.[46]

As the likelihood of war increased, the military forces began to prepare for action. The Navy Department created the Naval War Board to update an existing plan developed by the Naval War College beginning in 1895. The Army had a less formal planning process, with individual bureau chiefs working on their own areas. Secretary of War Alger and Commanding General Miles held occasional sessions focusing on specific issues. In March 1898, the Navy and War Departments set up a two-man liaison group to work on coordinating plans for joint Army-Navy operations. Alger selected the head of the Military Information Division., Lieutenant Colonel Arthur Wagner as the Army representative.[47]

The War Department planned on using the Regular Army for the coming war.

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[46] **Cosmas, *Army for Empire*, 30-33.**

[47] **Ibid., 73-74.**

Their concept was to expand the existing force to three or four times its current size by filling the companies that existed with only officers, those assigned to working with the National Guard or instructing college students in military science. In addition each of the existing units would be expanded in size. This concept had been discussed by military theorists drawing on the ideas of Emory Upton. Since the number of men to be used was not large, the Army's leaders did not plan to purchase large quantities of supplies, weapons and ammunition. In March 1898, the War Department worked with Iowa Congressman John A.T. Hull to introduce legislation to form the Army envisioned by its planners. Hull was the chairman of the House Committee on Military Affairs. The staff of the Adjutant General's office assisted in drafting the legislation.[48]

The bill submitted by Hull would organize each infantry regiment with three battalions. The ten companies in the regiment, eight fully staffed and two with only officers assigned, would be formed into two full battalions and one skeleton battalion. Each of the full battalions would use four existing fully staffed companies. The skeleton battalion, which would only be manned in time of war, would use the two existing companies not manned as its core, and fill its ranks with new recruits. This organizational approach, the result of studies and analysis by military thinkers since Upton, also reflected the manner in which European armies planned to expand for war.[49]

The National Guard evolved from a state- directed volunteer organization at the time of the Civil War into a more formally organized force by 1914. Much of this evolution took

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[48] **Ibid., 89-90.**

[49] **Cosmas *Army for Empire,* 90.**

place between 1865 and 1898. As the United States moved in the direction of war with Spain, however, the volunteer forces under state control suffered from a number of weaknesses which became evident as the McKinley administration began to organize its military response to the crisis.[50]

The Guard was national only in name. Federal distribution of arms was the only type of influence exercised by the government. Individual states organized, equipped and trained their forces differently, and not all states used the term "National Guard". After 1885 the development of state forces became more stable and the numbers of troops expanded.[51]

The occasional use of National Guard formations to quell labor unrest during the 1870s taught states that they needed to spend money for training and equipment and also exercise state level control of their units. Some states reorganized their militia and eliminated positions in the interest of increased efficiency. The one thing that was common about military units organized in states and territories was that almost every one had them. In 1895, only Alaska Territory did not have a military organization.[52]

National Guard leaders formed the National Guard Association in 1879. The association took the position that the National Guard was organically part of the national defense system of the United States. Guard leaders fought with the Regular Army's leaders to get increased Federal funding for Guard activities. One major point of contention was

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[50] **Cooper *The Rise of the National Guard*, xiii.**

[51] **Ibid., 26-27.**

[52] **Ibid., 30-31, 37.**

the question of whether National Guard units could be mobilized for service outside the borders of their home state. Some writers on military policy claimed that a declaration of war was a law, and thus the Guard could be mobilized to defend the nation.[53]

Guard medical officers formed their own professional organization in 1892. It was the Association of Military Surgeons, led by Nicholas Senn. They were aware that defects existed in the medical elements of the National Guard. Some states had not organized any medical departments, there was no Guard Hospital Corps and medical officers were appointed without any examination to determine their fitness. Thus, Guard medical organizations did not mirror those of the Regular Army. [54]

Regular Army theorists were willing to view the state forces as useful, but not the core from which to build an army for war. They felt that state troops should be under continuous Federal direction for training. These writers noted that the Constitution's provisions specifying that states could organize, direct and control the militia formed a barrier for the use of state militia in time of war. The Regulars were willing to draw upon the militias for trained individuals to expand the Army, but not whole units. They observed that the militia did not contain the proper mix of units in military branches (i.e., artillery, cavalry and infantry) needed in time of war. Those belonging to this school of thought wanted to establish a federal reserve separate from the National Guard and under the continuous direction of the Regular Army.[55]

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[53] **Mahon, *History of the Militia and the National Guard*, 118-119, 121, 124.**

[54] **Ashburn, *A History of the Medical Department of the United States Army,* 146.**

[55] **Cosmas *Army for Empire,* 49-50.**

A number of Guard leaders viewed their positions in state military organizations as a route to both political advancement and the attainment of social prestige. These men held fast to the concept that state forces were the logical base for expansion of the military in time of war. Recognizing the existence of the interpretation that state forces could not be used outside their state boundaries, these military thinkers suggested that, if forces were needed in time of war, Guard units could be offered the chance to volunteer for federal service as a unit. This approach represented a compromise, but retained the practice of units voting to determine their participation in military operations. Regular officers found this concept distasteful.[56]

When the Hull bill was introduced in Congress on March 17, 1898, it had initial success. This legislation was aimed at the reorganization of the Regular Army into a three battalion regiment. It would have allowed for expansion of military forces by using the existing leaders as cadre to train new soldiers within the regiments. But the development of national fervor for war was accompanied by widespread volunteering for military service by individuals, and offers to form military units for wartime service. A common thread was local association - men wanted to go to war in units composed of others from their home state. This spelled trouble for the Hull bill.

When the Hull bill was brought to the floor of the House of Representatives, Congressmen from many states, urged on by members of their militia, attacked it. It quickly became obvious that the Hull bill, and the Army's plan for expansion would not pass into law. On April 7, the Hull bill was returned to the House Committee on Military

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[56] Ibid., 51-52.

Affairs, effectively defeating it. The Congress would now develop legislation for the military forces used.[57]

On April 19, Congress voted to support intervention by the United States in Cuba. This was followed by an ultimatum to Spain demanding that it remove its military forces from Cuba and relinquish sovereignty. The Spanish government did not respond, and on April 25, Congress passed a formal declaration of war.[58]

After the defeat of Hull's proposed legislation, the War Department developed a plan for an expeditionary force. It was initially to include all available Regular Army units and between 40,000 and 50,000 volunteers. This was later modified to 40,000 volunteers for field services and an additional 20,000 for coast defense. After passage of a declaration of war, the President would issue a call for volunteers to the states. The idea was that states could draw first upon their organized National Guard units. States could organize regiments and select their officers.[59]

The states responded to these plans by demanding that National Guard units be allowed to volunteer as units. Guard units met in their armories and made it known to their governors that they would go as units or not volunteer at all. The states also wanted to send more men than the plans called for, responding to the public demand for men to be allowed to volunteer. The result of this pressure was that when President McKinley issued his call for Volunteers, he asked the governors to supply 125,000 men, rather than the 60,000

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[57] **Ibid., 91-98.**

[58] **Ibid.**

[59] **Ibid., 99.**

planned for by the Department of War. This amount was approximately the same number of men in the entire National Guard. On April 25, the day that Congress declared war, the President sent messages to each governors asking for a specific number of regiments, companies or batteries. The Hull bill, which contained authority for the reorganization of the Regular Army, passed on April 23. It had been revised to limit the Regular Army to a wartime strength of 61,000 enlisted men, with a required reduction to a peacetime strength of 27,000 at the end of the war. At the beginning of the Spanish-American War, the Regular Army's strength was 2,143 officers and 26,040 enlisted men, or a total of 28,183. [60]

As I discuss the performance of Volunteer units at Camp Thomas, the weaknesses inherent in a system which allows soldiers to select their officers will become evident. The lack of training in National Guard units led to poor performance in their field sanitation. The lack of training for Volunteer medical officers made the diagnosis of disease difficult. The system of using soldiers assigned from units to perform nursing duties for which they had not been trained compounded the impact of diseases.

With Congress pressing the President to call for more volunteers, the stage was set for problems. The Department of War had planned for 60,000 men and now had to assemble, train, support and equip more than twice that number. With a mixture of established National Guard and newly formed Volunteer units, performance was likely to be uneven. In an environment where the leaders were elected, it would be difficult to enforce standards as soldiers would not wish to perform tasks they deemed distasteful.

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[60] **Ibid. , 109-110; DCR 1:254.**

But before I address these subjects, a description of the health and medical situation existing in 1898 is needed. This is the subject of the next chapter.

Chapter 3 - Typhoid Fever in America

"First, do no harm."[1]

This chapter discusses typhoid fever as a disease, and describes the state of medical knowledge of typhoid in 1898. It also addresses the state of American medicine in this period and argues that typhoid fever was endemic in the United States. Contemporary descriptions of outbreaks of typhoid show that the disease was found in numerous locations and appeared over a number of years. The disease struck major American cities, small towns and was also found on isolated military posts. The diagnostic methods used for identifying typhoid fever are described. In the years between the end of the Civil War and 1898, the sciences of bacteriology and epidemiology were in their infancy, as was the development of public health systems. However, during this period significant advancements in bacteriology and the understanding of disease mechanisms resulted in the growth of a public health movement.

Martin Melosi has characterized the development of American sanitary services into three phases. The first of these he describes as "The Age of Miasmas," lasting from the seventeenth century to 1880. This era was characterized by the belief that diseases were believed to be caused by so-called "miasmas'. In 1842, English sanitarian and lawyer Sir Edwin Chadwick proposed the use of a pressurized arterial water system integrating house and main drainage, street cleaning and paving into a single process. Although his ideas were

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[1] **This term is often cited as part of the Hippocratic oath taken by physicians. It was rendered in Latin as *Primum non nocere* and was commonly used in English from the late 1800s. Cedric M. Smith, "Origin and Uses of Primum Non Nocere –Above all, do no harm!" *Journal of Clinical Pharmacology* 45 (April 2005): 371-377.**

never implemented, others followed his approach, and English ideas of sanitation became the source for American developments during the period of rapid growth in American cities. Melosi's second phase is called "The Bacteriological Revolution" and lasts from 1880 to 1945. In the beginning years, from 1880 to 1920, modern sanitary services were developed. Advances in bacteriology led to better methods for combating disease, but sanitary systems design was based on systems designed in the preceding era. There was a preoccupation with biological forms of pollution.[2]

Scientific research in the first half of the nineteenth century led to medical advances made after the Civil War. The pioneering work of John Snow in epidemiology is of particular interest. Snow was a physician in London and held the theory that cholera was the result of poison of an organic nature. He stated in an 1849 pamphlet that the disease attacked the human intestinal tract, and after infection, left the body as fecal matter. If feces were to reach the sources of public water supply, Snow said they could cause an epidemic. Snow was well-respected and when a cholera epidemic began in London in 1854, he was asked to investigate it. By interviewing people in the area of the epidemic, Snow was able to determine that all of the five hundred victims of the outbreak had drawn their water from a single well. He found that the water in that well was contaminated. Snow broke the handle on the pump, preventing people from using it and ended the epidemic. His discovery led to cholera being controlled in most Western countries in the next few years. The cholera vibrio

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[2] Martin V. Melosi, *The Sanitary City: Urban Infrastructure in America from Colonial Times to the Present* (Baltimore: The Johns Hopkins University Press, 2000), 12-13.

does not live long when exposed to light or deprived of moisture. It flourishes in areas where living conditions are crowded, and the inhabitants do not practice personal hygiene.[2]

Dr. William Budd also investigated waterborne transmission of diseases. His work addressed typhoid fever. Like Snow, Budd carried out studies in the field, interviewing people and mapping disease patterns. This work yielded a body of statistical material that showed that typhoid was, like cholera, transmitted through water supplies contaminated by feces. This meant that, in order to control typhoid, it would be necessary to monitor the conditions of watersheds and water supplies. Typhoid also can be transmitted by food that is contaminated. Milk from dairies where conditions are not sanitary, shellfish from polluted waters and food from field fertilized with night soil all can carry the typhoid bacillus. Flies gathering around privies can spread the disease by entering kitchens and landing on food being prepared. Lastly, the disease can be spread by human carriers, either those convalescing from the disease, or people who carry the disease but do not contract it themselves.[3]

The size of armies in the Civil War offered medical men an opportunity to collect statistics on disease. Military leaders needed to know how many men were available to fight, and also why men were not fit to fight. As a result of these needs there were extensive records of disease, as well as casualties suffered during battles. During the Civil War, there were 75,368 cases diagnosed as typhoid fever, resulting in 27,056 deaths. In addition, 49,871 cases were identified as typhomalarial fever and these resulted in 4,059 deaths. Other

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[2] **Martin V. Melosi, ed. *Pollution and Reform in American Cities, 1870-1930,* 37-38.**

[3] **Ibid., 38.**

intestinal infections were also rampant, with 1,155,426 cases described as acute diarrhea, 170,488 cases of chronic diarrhea, 233,812 of acute dysentery and 25,670 of chronic dysentery. Given the lack of an effective means of diagnosis, it seems likely that at least some of these ailments were actually cases of typhoid fever.[2]

Major Joseph J. Woodward, an army surgeon, wrote *Outlines of the Chief Camp Diseases of the United States Armies* in 1863. In this work he was the first person to suggest the idea of a disease he called typhomalarial fever. The idea that typhoid fever and malaria could exist together as a single disease, rather than two diseases at the same time received wide acceptance, and cases of typhomalarial fever were reported from the Civil War on until World War I. The history of this supposed disease reflects the developments taking place in medical science. Initially, observation of symptoms was the primary means of disease diagnosis. Later, the medical profession began to search for specific physical conditions thought to mark the presence of a disease. In the later years of the century, scientific advances led to the use of bacteriology in diagnosis.[3]

Three phenomena supported the acceptance of typhomalarial fever by the medical profession. The first was the lack of specific and widely accepted definitions for diseases. A physician observing patients might conclude that the patient suffered from a specific disease, based on his professional knowledge and experience. A second doctor observing the

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[2] **Joseph J. Woodward *Outlines of the Chief Camp Diseases of the United States Armies (*Philadelphia, Pa.: J.B. Lippincott & Co., 1863*);* Packard, *History of Medicine in the United States*, 1:646 This citation is from a chapter prepared by Colonel P.M. Ashburn on Military Medicine from the revolution to the close of the Spanish-American War.**

[3] **Dale C. Smith, "The Rise and Fall of Typhomalarial Fever: I. Origins and II. Rise and Fall" *Journal of the History of Medicine and Allied Sciences* 37 (1982):182-184.**

same patient might reach a different diagnosis, based on his own background. This, without concrete and widely accepted definitions, it would be difficult to determine what disease was being discussed. Second, the emphasis on applying pathological anatomy in diagnosis overshadowed the contributions made by science. Put another way, doctors had to decide what scientific results supported a diagnosis, and whether the clinical cues then in use to diagnose supported scientific test results for each disease. The third cause was the widespread belief that there were diseases that were unique to specific geographical regions, specifically the American South. This, made it difficult to determine whether a case of fever reported in Boston, for example, was the same disease as one in Charleston.[4]

A comparison of disease symptoms gives a better basis for understanding why typhomalarial fever seemed to be a viable concept. The clinical manifestations of malaria begin with a chill which may last as long as an hour, and is often associated with nausea, vomiting and headache. The chill is followed by a period of high fever with sweating. This may have a duration of several hours. The cycle of chills and fever repeat, with the duration between paroxysms depending on the patient and the type of malaria. The initial episode of disease may last between two and four weeks. Typhoid fever is characterized by headache and fever. The abdomen may become swollen and tender. Bowel movements may be loose and constipation may occur. There is a transient rash of spots on the abdomen. Later, the headaches become more severe and mental confusion and stupor may occur. The spleen and liver both become larger. Complications include pneumonia, intestinal perforation and intestinal hemorrhage. At the outset of typhoid, when the only symptom is fever, typhoid

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[4] Ibid., 184-185.

can be confused with other ailments such as malaria, hepatitis, tuberculosis, brucellosis and typhus.[5]

Woodward conceived of typhomalarial fever based on his observations of the Peninsula campaign of 1862. He believed that the disease striking Union soldiers was different from diseases encountered in Northern cities. Physicians reported results appearing to suggest that two disease causes were present in their patients. If observed symptoms did not match those associated with typhoid or malaria, perhaps they were the result of multiple disease causes. Woodward held that the lesions found in postmortem examination of typhoid fever patients and those of supposed typhomalarial fever patient were different. However, by 1876, he retreated from that position. But the International Medical Congress held in Philadelphia in 1876 supported his position that typhomalarial fever was a compound of two different elements, typhoid and malaria.[6]

In 1880, the organism that causes malaria was discovered by French Army surgeon Alphonse Laveran and the bacterial cause of typhoid was discovered by Karl Eberth. However, the bacteriological techniques developed by these Europeans were not rapidly adopted in the United States. Americans began to study these techniques in 1885, and by the 1890s, more medical schools were creating courses on bacteriology. Before Laveran's discovery, two other European scientists had claimed to have discovered the germ causing malaria. The United States National Board of Health asked Dr. George Sternberg to

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[5] Kenneth F. Kiple, ed. *Cambridge History of Human Disease*, 859, 1073. It is notable that these modern descriptions still include the caution that the diseases may be confused with others.

[6] Ibid., 288-290.

evaluate the claim, and he concluded that their claim was not definitive. In contrast, Laveran's results were validated by other scientists during the five years following his announcement.[7]

In 1896, Dr. William Osler addressed the American Medical Association in Atlanta. He spoke on the fevers of the South. He noted that typhoid fever had been proven to be prevalent in the South and suggested that there was no typhomalarial fever. He stated that if a concurrent infection were identified and proven the term typhomalarial could be used. [8]

The three decades after the Civil War were a time of rapid advances in medicine. Scientists like Joseph Lister, Robert Koch and Louis Pasteur were developing the new field of bacteriology. Chemical anesthetics had first been used during the 1840s. New developments in medicine included the use of vaccination, advances in operative medicine and applications of chemistry in both physiology and pathology. Scientists expanded their use of the microscope as a tool for further study of diseases.[9]

American physicians wishing to expand their knowledge traveled to Europe. In Louisiana, access to French reports of medical advances led physicians to begin studying in France. In the period before the Civil War, American doctors were exposed to the clinical advances of Pierre C. Louis, who along with other young physicians collected statistics and tested the validity of their diagnoses by postmortem examinations. Their work showed that

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[7] **Ibid., 301-302.**

[8] **Ibid., 310-311.**

[9] **Packard, *History of Medicine in the United States*,1: 652-653.**

many accepted forms of therapy were worthless. American doctors held that active intervention in the form of bleeding and purging were needed. Between 1820s and 1860, over 700 American doctors studied in France.[10]

American medical schools focused on diagnosis and treatment, rather than research into the causes of disease. The practice of medicine in the United States was not yet professionalized. There were a great number of schools, with varying levels of quality. Much medical training was by apprenticeship to an established doctor. Medical schools did not attract additional funding, trailing endowments offered to law and theology institutions. Medical schools proliferated after 1810. By 1875, there were seventy-three institutions offering medical degrees. Most of these schools were proprietary, that is, established by doctors who wanted to found a school. Entrance requirements were eliminated and the emphasis was on practical knowledge. The curriculum did not require laboratory work or clinical training. Many of those teaching in these schools were products of the apprentice system. Occasional attempts to raise academic standards were met by drops in enrollment. In 1846, the National Medical Convention met and established a committee to study medical education. The committee recommended a longer academic year, proof of apprenticeship and a wider range of skills among professors. Some schools attempted to implement these recommendations, but lost students as a result. The net effect of the educational system was that there were many poorly qualified doctors, and they did not make very much money.[11]

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[10] Duffy, *The Healers*, 99-101.

[11] Ibid., 171-179.

After the Civil War, physicians went to Germany and Austria for study. They returned with an appreciation for research methods and skills. In the 1890s, Dr. William H. Welch was involved in establishing Johns Hopkins Medical School as a research institution. Welch also encouraged Surgeon-General Sternberg to establish the Army's Medical School in 1893, and to encourage Army doctors to engage in research.[12]

At the end of the Civil War, Dr. John Shaw Billings was placed in charge of the Surgeon-General's Library. Fortunately, the postwar closing of military hospitals made about $80,000 available for Billings' use. He expanded the library and was able to get Congress to pass periodic appropriations for the continued expansion of the collection. The *Index Catalogue* of the library today remains a significant tool in medical bibliography. [13]

The public health movement gained momentum after the Civil War and it was characterized by conflict between health care reformer and government bodies. Health care professionals recognized that government activity was needed to collect data, establish sanitary standards, and even more importantly, enforce them. So the sanitarians, as they began to be called, pressed for ongoing legislation and the formation of permanent boards of health. Government responses to disease outbreaks were typically short-term in nature. Before the Civil War, when a disease outbreak occurred, the government body established health control bodies. However, once the disease crisis passed, governments usually decided to let these organizations lapse, or made them ineffectual by refusing to fund them and using health control positions as patronage . During the same period, health organizations

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[12] **Ibid., 228-229.**

[13] **Ibid., 229-230.**

began keeping statistics on public health. Professionals began to discuss public health. Despite major disease outbreaks, like cholera epidemics in 1832-33 and 1849-54, governments did not take action to respond to the threat of disease outbreaks. Western European national governments led the way in collecting health statistics. In this country, Dr. Edward Jarvis was involved with the founding of the American Statistical Association. He was politically active and helped pass the Massachusetts Registration Act of 1842. This act served as the model for other state legislation. The American Medical Association, founded in 1847, also became involved with the development of registration laws. In the following fifteen years, eleven more states passed registration laws mandating the collection of vital statistics.[14]

The arrival of large numbers of immigrants and the accompanying increased risk of disease overwhelmed city governments. New York was one of the first cities to be affected. The way New York responded to the threat of disease is an example of the tension between sanitary reformers and city governments. In 1852, Dr. John H. Griscom submitted a report pointing out that medical aid was needed for the indigent and a sanitary police organization was needed. Griscom had been appointed city inspector in 1842, and immediately began collecting statistics and reporting them. His first report expanded mortality statistics and was accompanied by a commentary some fifty-three pages in length. The commentary described living conditions in New York. They included crowded dwellings, filthy privies, inadequate street cleaning and contaminated water. He later had

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[14] **Duffy, *The Sanitarians*, 93-94.**

the report published it 1845. He noted in the introduction of this report that his 1842 recommendations to the mayor and city council resulted in his dismissal from office. [15]

Typhoid fever was one of the major diseases found in 19th century America. During the Civil War, of 75,368 typhoid fever cases, 27,056 patients died, a mortality rate of 35.9%. It was the most lethal of intestinal infections. Typhoid fever is an infection of the gastrointestinal system caused by a bacterium. This bacterium is *Salmonella typhi.* The symptoms include a sustained fever which develops slowly. Other symptoms are varied and may include weakness, abdominal pain, coughs, headaches and digestive disturbances. Some few cases may have a distinctive rash ("rose spot") and enlargement of the liver or spleen. The disease normally runs its course in three to four weeks About 10% of cases prove fatal. Approximately 2% of those who have the disease are asymptomatic carriers of the bacterium. That is, they do not manifest the disease, but can infect others. The bacillus has an antigen which acts as a protective envelope aiding it to resist the human body's defenses. The antigen is called the *Vi antigen or* "virulence antigen" and is causes the disease only humans, although other animals can transport the disease. Recognizing that a person may be carrier and testing that person for the presence of the typhoid allows health authorities to quarantine such carriers.[14]

The United States was not a healthful place to live in during the last half of the nineteenth century. Port cities had outbreaks of yellow fever, big cities had epidemics of cholera and typhoid, and smaller communities did not escape the ravages of disease There

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[15] **Ibid., 95-96.**

[14] **Kenneth F. Kiple, ed., *Cambridge History of Human Disease*, 1071.**

are numerous studies of outbreaks in both large cities and smaller communities, revealing that the size of the community had little or nothing to do with the rise of the disease,. There are many reports of typhoid fever, and the examples below show that disease was both widespread and recurring. One of the causative factors for typhoid and other waterborne diseases was the pollution of water supplies. The same civic authorities who refused to form permanent health inspection organizations on the grounds of cost also refused to invest tax revenues in sewer and water systems. [15]

Budd's research into typhoid did not have an immediate impact on health conditions in England. Thirty years after his work was published, the government of England passed the Public Health Act and began improving its public health infrastructure. Within ten years, the typhoid rate dropped by 50 percent. With the general acceptance of Budd's ideas and the discovery of the typhoid bacillus, govenrment officials began to realize that prevention of waterborne diseases demanded a clean water supply.Cities needed to treat the water they used, and water filtration and chlorination became popular.[16]

With the growth of urbanization, water sources used began to change. Public wells drew on local groundwater supplies, and pumps allowed people to draw water. Owners of houses often dug their own wells or drew water from nearby streams, ponds or lakes. Cisterns were also used to catch rain water. As cities grew, streams were filled in or used as waste disposal means. Responsibility for water supply and waste removal was individual.

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[15] **Packard**, ***History of Medicine***, **646; Stuart L. Galishoff,** ***Newark: Nation's Unhealthiest City*****, 1-9**.

[16] **Werner Troesken," Typhoid Rates and the Public Acquisition of Private Waterworks, 1880-1920",** ***The Journal of Economic History***, **Vol. 59, No. 4 (Dec., 1999), 929**

Privy vaults were usually used, and in cities services to periodically remove the contents of these vaults became common. Privies contaminated nearby wells.[17]

The examples below show the effect of polluted water on both major cities and small towns. The short description of Brooklyn emphasizes the frequency of outbreaks. The case of Chicago shows both the dimensions of disease in a large and growing city, and the amount of engineering needed to produce a safe water supply. The brief description of Boston includes the identification of the milk supply as a means of spreading disease, and also the establishment of a city bacteriological laboratory to test and determines the nature of diseases. Finally, a longer section on Newark touches on each of these areas; frequency of disease outbreaks, need to engineer a safe water supply, milk as one method of spreading disease and testing for diseases.

In 1885, the Brooklyn, New York Department of Health issued a preliminary report on typhoid fever addressed to the physicians of the city. The Department listed twenty facts deduced from its examination. Several of these support the idea that typhoid was widespread and outbreaks frequent. The Board noted, "That typhoid fever exists in this city, as it does in almost every city, town and village throughout this country and Europe." The board went on to say that the disease had been identified in Brooklyn as far back as 1848. The board observed that their review of records of deaths from typhoid showed that it had been more prevalent in 1848-52, 1854, 1859-73 than in 1885. This comment shows that typhoid had been quite prevalent in 19 of the 37 years in the period.

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[17] **Martin V. Melosi, ed. *Pollution and Reform in American Cities, 1870-1930,* 59-60.**

Typhoid fever cases had been reported in each year, and the board provided a listing of mortality, with cases shown as a percentage of the total population. Between 1848 and 1885, the population grew from 82,974 to 725,000, not quite a tenfold increase. The largest number of cases was in 1865, with 250 reported. Epidemiologists use the term "endemic" to describe the "habitual presence of a disease within a given geographic area."Clearly, typhoid fever was endemic in Brooklyn. The department said the principal cause of typhoid was the failure to disinfect the discharges of typhoid patients. The report specifically stated that the water supply was not connected to the origin or spread of typhoid fever. It recommended that sewers be better ventilated and suggested that treatment of sewer wastes with chloride of lime would help control the disease. The reportemphasized treatment of the wastes at the house plumbing and calls for examination and repair of defective pipes in residences.[18]

The State Board of Health in Illinois published data on typhoid deaths. They were unable to provide data between 1861-69 and 1871-79, but listed annual data thereafter up to 1926, the year in which the data were published. Between 1860 and 1900, the largest number of deaths was 2,082 in 1881. The lowest number in that period was 1,054 in 1883. A notable feature of their report was the inclusion of data on milk-borne typhoid. The report only identified milk-borne cases from 1913 on.[19]

Chicago was most notable for the efforts undertaken to handle the disposal of sewage, while preserving the city's water supply. Typhoid fever occurred in Chicago in

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[18] **Brooklyn Department of Health *Typhoid Fever in 1885, Preliminary Report*, 1,3. Leon Gordis *Epidemiology*, 18.**

[19] **Illinois State Board of Health *The Rise and Fall of Disease in Illinois*, 343, 345.**

cycles, with epidemics in 1871-72, 1876, 1885 and 1891. Typhoid was responsible for between four and seven percent of total mortality in these outbreaks. In non-epidemic years, typhoid only contributed to three percent of mortality. [20]

After an epidemic in 1854, the State of Illinois intervened to prevent the city from releasing sewage into Lake Michigan and into downstream communities. The city arranged to introduce legislation creating a Board of Sewerage Commissioners. This board had three responsibilities; first, to supervise the drain age and sewage disposal of three sections comprising the city of Chicago, second, plan a coordinated system for the future and third, issue loans, purchase real estate and erect buildings to implement their plan. The City Council of Chicago held veto power over the board's actions, but was convinced by the board to allow an examination of the city's water system. [21]

The board hired Ellis Sylvester Chesebrough, who had formerly headed the Boston Water Works and then served as Boston's City Engineer. Chesebrough would serve from 1855 to 1861 as chief engineer for the sewer system and later, from 1861 to 1879 as the first City Engineer of Chicago. Chesebrough's solution was wide-ranging in impact. He proposed that the street level of the city be raised, and that an intersecting sewer system by built to discharge the city's wastes into the Chicago River and thence into Lake Michigan. Chesebrough had examined four options, direct dumping of wastes into Lake Michigan, drainage via the Chicago River, construction of an overland drainage canal and building of reservoirs to treat the sewage for use as fertilizer. Chesebrough believed that running water

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[20] **Ibid.**

[21] **Ibid.**

could purify itself. This concept of self-purification was common among sanitary engineers at this time. He would have preferred the drainage canal, but drainage into the river was economically more feasible.[22]

In 1855 work began to raise all streets by eight feet over their original grade level and the next year, construction of a sewer system was begun. The sewage accumulated in the Chicago River and disease continued to be a problem. In 1865, the city deepened the existing Illinois and Michigan Canal and used pumps to reverse its flow, carrying the city's wastes away from Lake Michigan. In addition, the city began constructing water intake tunnels two miles out in the Lake. It was hoped this intake would avoid the more polluted shore line and supply non-polluted water to the city. By the 1880s, the sewer problem continued, and the city planned to build the Sanitary and Ship Canal linking the Chicago River and the Des Plaines River and paralleling the Illinois and Michigan Canal. Chicago's wastes would be carried downstream into the Mississippi River. There were long delays and a referendum before legislation was passed, and construction did not begin until 1892. During the Columbian Exposition and World's Fair in 1893, the city took special precautions to provide filtered water for those attending. The city of Chicago carried out heroic efforts to get pure water, during a time of tremendous growth.[23]

The State Board of Health report also had data on the City of Chicago. It noted that the greatest epidemic of typhoid in Chicago was during the years of 1891 and 1892. The

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[22]Ibid.

[23] Carolyn G. Shapiro, "The Scientific Community and Typhoid Prevention: Public Health and the Chicago Drainage Case, 1900-1906." Ph.D. diss., Yale University,1993,20, 94-98, 136-148, 159-162.

board commented that the annual average number of deaths in Illinois from 1800 to 1886 was 1,335. Of this average, the average for Chicago only was 413, so the city had about one-third of the total deaths in the state. A map showing the reduction of typhoid fever in Chicago between 1891 and 1894 also compared the city's disease reduction with that of other major cities. Chicago's mortality rate went from 1.59 per thousand in 1891 to .31 per thousand in 1894, a reduction of 80.3 percent. The other cities showed similar reductions, but lesser percentages of reduction. Although intended to praise Chicago's superior performance, the chart also showed that the other cities began with much lower rates than Chicago to start with. The rates for Cincinnati, Cleveland, Philadelphia, San Francisco, Baltimore, Boston, St. Louis, Brooklyn and New York ranged from .67 per thousand to .21 per thousand in 1891.[24]

The annual number of typhoid cases reported in Boston ranged between 800 to about 1,100 during the 1880s and 1890s. In 1898, the city formed a bacteriological laboratory and used the Widal blood agglutination test to identify typhoid patients. The rate rose in the early 1900s and peaked in 1908 when the city suffered a milk-borne epidemic. The case rate rose to 1,500 that year. Between 1911 and 1920, the rate dropped from around 500 to slightly above 100.[25]

Newark, N.J. provides an excellent summary of conditions prevalent in cities. In 1890, the U.S. Census report stated that Newark was the nation's unhealthiest city.

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[24] **Ibid., 340, 339.**

[25] **Michael P. McCarthy *Typhoid and the Politics of Public Health in 19th Century Philadelphia*, 152, 184. Data is from a bar chart and thus numbers are approximate.**

The mortality rate in Newark was 27.4 per thousand. In comparison, the twenty-eight largest American cities had an average mortality rate of 21.6 per thousand. Newark had characteristics common in large U.S. cities; a poor water supply, crowded living conditions, industrial waste, weak or non-existent medical and public health services, unpaved or poorly paved streets, lack of effective garbage removal and no sewers.[26]

In 1860, 73.5 % of Newark's population was involved with manufacturing and the city was eleventh in population size and seventh in manufacturing value. Its population had doubled between 1830 and 1860. Housing for the workers, often recent immigrants, was crowded. After 1840, many German immigrants joined the Irish who had arrived in the 1820s and 1830s. City government operated on the principle that its main function was the promotion of business. Health and social welfare conditions were ignored. Old and dilapidated buildings were filled with tenants. In 1860, the city's board of health reported that tenement houses threatened Newark's reputation for salubrity. Despite these conditions, Newark's mortality rate between 1841 and 1855 was 18.66 per thousand. This was better than cities like New York, New Orleans, Philadelphia and Boston, where mortality rates averaged 30.2 per thousand. But Newark experienced cholera epidemics in 1832, 1849 and 1854. Smallpox reappeared after no reported cases in thirty to forty years. The Newark Board of Health was formally established in 1857. Prior to that time, responses to epidemics were handled by the establishment of health committees and boards for the life of the outbreak.[27]

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[26] **Galishoff**, ***Newark: Nation's Unhealthiest City*, 103, 4-7.**

[27] **Ibid., 35-37, 41.**

In 1859 and 1860, the mayor proposed asking the state legislature for help in developing a water supply for the city. The Passaic River would be the source of water. The legislature authorized the city to take over the Newark Aqueduct Company in 1860. Press accounts about that time noted that the Passaic was receiving the effluvia of cities further upstream and cautioned against using it. The Civil War caused the city to postpone construction of the waterworks.[28]

Between 1860 and 1900, the population of Newark almost tripled, rising to 246,000. Paving had proceeded at a slow pace, and there were only 27.1 miles of paved streets in 1870. Property owners were required to pay the entire cost of street improvements until, in the 1870s. a number of them sued to establish that such improvements should be paid for by the municipality. The court agreed that property owners would only pay for the sidewalks and that streets would be paid for by the city.

Construction remained slow and by 1890 only a third of the 186 miles of streets were paved.

The public water supply in Newark was also a health issue. Privies and wells were in common use, and people regularly contracted typhoid fever or dysentery. The supply of water coming from the Passaic River was contaminated by waste from cities upstream. In 1891, there was a typhoid fever epidemic. Of 876 reported cases, there were 196 deaths.[29]

Other cities also faced the issue of disposing of human waste. An 1894 report on typhoid fever in the District of Columbia cited pollution of the soil from privies and sewers,

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[28] **Ibid., 35-37, 41, 46-48.**

[29] **Ibid, 85,105.**

drinking of well and pump water and drinking of contaminated milk as the sources of typhoid. The report recommended as preventative measures; abandonment of wells, purification of the sewerage system, the addition of new sewers, improvement of drainage, the final and safe disposition of sewage, making privies water-tight and the inspection of dairies.[30]

The issue of typhoid in smaller communities was addressed by George C. Whipple, a consulting engineer and civil health leader in Massachusetts. Whipple was one of the early sanitarians. He published a study of typhoid fever in 1908 describing his method for classifying epidemics. His classification is important because it also cites the locations for the epidemics and discusses them individually. Many of the sites were smaller communities. Whipple used the following categories:

I. Epidemics due to infected water,

II. Epidemics and outbreaks due to contagion, flies and general uncleanliness,

III. Outbreaks due to infected milk,

IV. Outbreaks due to infected oysters and other shell-fish

V. Outbreaks due to infected fruit and vegetables,

VI. Outbreaks due to infected ice

VII. Outbreaks due to other causes, such as cream, ice-cream, various foods.

The largest number of epidemics were in the category of infected water. Whipple listed twenty-one epidemics and further sub-classified them into four categories by cause; water

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[30] **Medical Society of the District of Colombia**. "***Report on Typhoid Fever in the District of Colombia***." **,1-18.**

of good quality suddenly infected, water constantly contaminated, water accidentally infected and infected ground water. [31]

Whipple noted that Plymouth, Pennsylvania, New Haven, Connecticut, Ithaca, New York and Scranton, Pennsylvania had each suffered epidemics due to infected water. Plymouth's outbreak in 1885 was caused by a family living uphill from the town. A family member contracted typhoid during the winter and the contents of the chamber pot were emptied onto the frozen ground near the river. The privy used by the family was also close to the river. When the weather warmed, the material found its way into the river, and the epidemic began. One of the consulting bacteriologists was Dr. Edward O. Shakespeare, who would later serve as a member of the Typhoid Fever Commission.[32]

In the classification of water constantly subject to contamination, Whipple again subdivided the cases into those caused by river water and those caused by lake water. In the category of river water, he listed pairs of towns, with one upriver from the other serving as the source of infection. Lowell, Massachusetts infected Lawrence Massachusetts, nine miles down the Merrimac River. The outbreak in 1890 was repeated in 1892. After the second outbreak, Lowell ceased its use of the river water and began using a ground water supply, and Lawrence constructed a filtration plant. The filtration plant represented a significant step in the public health movement. The immediate result was a drop in disease. The plant provided an example of the value of filtration, much as Snow's removal of the pump handle had. The other pairs of towns were Waterville and Augusta, Maine, and

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[31] **Duffy, *The Sanitarians,* 222.; George C. Whipple, *Typhoid Fever: Its Causation, Transmission and Prevention*, New York: John Wiley & Sons, 1908. 135-136.**

[32] **Whipple, *Typhoid Fever*, 137-138; Cirillo, *Bullets and Bacteria*,73,**

Pittsburgh and Allegheny, Pennsylvania. Whipple noted that Pittsburgh averaged 5,000 cases of typhoid each year over "many years."[33]

It is appropriate at this point to discuss the issue of filtration. Water filtration systems initially used sand as the medium of filtration. A basin was created, with the outer section used to deposit fresh wasters. This material was allowed to stand and solid wastes to settle out. The next segment inward was separated from the settling basin by a gravel filter which eliminated smaller particles. The third segment was a sand filter, and after water passed through this stage, it was available for pumping into the water supply. The first attempt in the United States to filter a public water supply was in Richmond, Virginia in 1832. It was unsuccessful, but several major cities considered filtration in the next few decades. In 1865, James Kirkwood proposed to filter the water supply of St. Louis. The water board sent him to Europe to study methods and he wrote a report in 1869. While Kirkwood was conducting his research, the composition of the water board changed, and his report was ignored. In the 1870s filtration began to be used, with Poughkeepsie, New York building the first American sand filtration system in 1870-72.[34]

The cities involved with lake water infection were Chicago, Cleveland and Burlington, Vermont. As noted above, Chicago solved its problem by creating a drainage canal to remove the water from the lake and send it down the Chicago River, and ultimately to the Mississippi. To accomplish this, the city reversed the flow of the Chicago River. Later, the state of Missouri sued the state of Illinois for creating contamination in the Mississippi.

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[33] **Whipple, *Typhoid Fever*, 149 - 153.**

[34] **Melosi, *The Sanitary City*, 86-87.**

The suit was ultimately resolved in favor of Illinois. Chicago had one year in which there were 2,400 deaths, representing about 25,000 cases of typhoid.[35]

Water accidentally infected was the cause for five locations. They were the cities of Butler, Pennsylvania, Lowell, Massachusetts, Millinocket, Maine, Baraboo, Wisconsin and the steamer "Northwest." The accidental infection in Millinocket was caused by the use of a pump located at a paper mill to pump water needed to fight a fire. The city had an adequate water supply, but low pressure. The pump was not ordinarily used to draw water from the Millinocket River. A second fire resulted in the use of the pump again, and the epidemic intensified. Wastes from Millinocket found their way into the river and infected three cities downstream, Bangor, Old Town and Brewer.[36]

Ground water that was infected was the next cause addressed by Whipple. Here he went further afield, citing cases in Lausen, Switzerland, Basingstoke, England and Auxerre, France, as well as Newport, Rhode Island, Trenton, New Jersey and Mount Savage, Maryland. The outbreak in Newport in late 1900 was caused by the infection of a well by nearby privies used by typhoid patients. That in Auxerre in May 1902 was caused by infection of brook water which leaked into a nearby canal and then into the ground water supply.[37]

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[35] **Whipple, *Typhoid Fever*, 161-166; Carolyn G. Shapiro, "The Scientific Community and Typhoid Prevention: Public Health and the Chicago Drainage Case, 1900-1906." Ph.D. diss., Yale University, 1993.**

[36] **Whipple, *Typhoid Fever*, 177-179.**

[37] **Ibid., 185-186.**

Whipple's classification of outbreak due to contagion, flies and general uncleanliness had three entries. They were the New Haven County Jail, Winnipeg, Manitoba and the United States Military Camps during the Spanish-American war. In New Haven, food for the prisoners was left in a room that was next to the street and not screened. There were five houses across the street from the jail in which there were cases of typhoid. The investigators identified flies as the source of the infection. Whipple makes interesting comments on the military camps. He notes the Civil War death rate in 1862-63 of 7,000 in an army of 460,000 in the Atlantic region. He also cites the death rate suffered by the British Army in the Boer War, 8,000 dead in an army of 230,000. By comparison, the 107,973 American soldiers suffered 20,738 supposed cases of typhoid, with 1,580 deaths. He comments that this death rate represents 1,463 per hundred thousand, comparing it to the typical U.S. city rate of 35 per thousand. He says this rate is appalling, and refers to the conclusions of the Typhoid Fever Commission. Whipple goes further and lists all fifty-seven of these conclusions in an appendix to his work.[38]

Whipple's last four categories represent outbreaks due to milk, oysters and shellfish, fruit and vegetables and other, including cream, ice cream and various foods. The descriptions can be discussed together, since all of them involve food. There were six towns with infected milk, Somerville, Springfield, and Marlborough, Massachusetts, Stamford and Waterbury, Connecticut. Oyster and shell-fish infection were found at Wesleyan University, Middletown, Connecticut, Winchester- Southampton, England and Lawrence, Long Island.

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[38] **Ibid., 195-196.**

Contamination of fruits and vegetables was found in Springfield, Massachusetts. No specific outbreaks were listed in the final category. [39]

Whipple's work cited a total of thirty-five instances of typhoid fever. They ranged in size from great cities to very small towns. His descriptions support the contention that typhoid fever was endemic in the United States at the end of the nineteenth and the beginning of the twentieth century. It is also notable that he makes reference to the Army's outbreak and provides a comparison with civilian rates in the same period. In the wake of the outbreak at Lawrence, the state of Massachusetts created the Lawrence Experimentation Station, which became the leading center for research into water purification. Slow sand filters had been used during the 1870s, and an evolution to so-called fast sand filters occurred between then and 1890. The fast sand filter system used mechanical means such as reverse flow and water jets to clean filters. Mechanical sand agitators were also used. The research in Lawrence contributed to scientifically designed filters. One key discovery was that an improved slow-sand filtering system could remove typhoid germs from water. This technique was used to construct the filtration system for Lawrence in 1893, and, as noted above, the city experienced a significant drop in typhoid fever.[40]

Civilian society struggled with disease and developed a number of ways to respond to it. It is appropriate to also consider military experience with disease. During the Civil War, there were a total of 359,528 deaths in the Union Army. Of these, 110,070 were as a result

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[39] **Ibid., 198-209**.

[40] **Melosi, *The Sanitary City,* 139-142.**

of battles, or were later deaths from battle wounds. The number of deaths from disease was 224,586. Another 24,877 deaths were from injuries, accidents or unknown causes. Thus, about sixty-two percent of deaths were from disease. The United States Army at war was as vulnerable to disease as the civilian population. The level of disease in the civilian population was mirrored in the disease experience of the military [41]

During the period from the end of the Civil War and 1898, the military medical community participated in developing preventative medicine. In 1874 and 1885, changes were made to Army regulations requiring post medical officers to submit a monthly sanitary report to post commanders in writing, with recommendations. The post commanders were required to review these reports and indicate their approval or disapproval in a written indorsement. The report and indorsement were then sent to the Department Commander, and a copy of the commander's indorsement was also given to the post medical officer. The Department Commander was required to forward a copy of the report and indorsement to the Surgeon-General. The establishment of this reporting procedure meant that the post commanders and their direct superiors were informed of conditions existing at military posts and recommendations made by the post medical officer. These reports were frequently cited in the annual reports of the Surgeon-General[42]

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[41] **Bayne-Jones *The Evolution of Preventative Medicine in the United States Army*, 99. The author quotes from the Louis C. Duncan Seaman Prize Essay " The Comparative Mortality of Disease and Battle Casualties in the Historic Wars of the World" *Journal of the Military Service Institute of the United States* 54: 140-177. Note: A specific page reference for the original quote is not supplied.**

[42] **Ibid., 111-112.**

Surgeon-General Sternberg issued a directive to all medical officers requiring them to provide reports of any outbreak of infectious diseases at their posts. The reports of these doctors give an indication of the disease experience of the U.S. Army before the Spanish-American War. Reports of typhoid outbreaks were received in November, 1893, Ft. McKinney, Wyoming, June 1893, Ft, Washakie, Wyoming, January 1894, Ft. Wadsworth, New York, June 1894, Leavenworth Prison, September 1894, Ft. D.A. Russell, Wyoming, October 1894, Camp Pilot Butte, Wyoming, The doctor at Ft. McKinney, G.E. Bushnell noted that men who drank only boiled water avoided disease. The doctor at Ft. Wadsworth, C.E. Comegys, would later serve at Camp Thomas during the mobilization of volunteer units. The reports continued throughout the war and the later occupation of Cuba and the Philippines[43]

A series of incremental increases in knowledge led to the development of an effective diagnostic test for typhoid fever. Dr. William Welch traced this history in a paper he presented at the Annual Meeting of the American Medical Association in June 1897. Welch noted that in 1889 Charrin and Roger found that immune serum can cause the agglomeration of specific bacteria. In 1891, Metchnikoff observed the same behavior and also noted that the pneumococcus also clumped in their sera. Issaeff confirmed Metchnikoff's findings in 1893. In 1894 Pfeiffer, working with Issaeff , found that cholera spirilla lose motility and break into small granules in immune sera. His work drew attention to the diagnostic employment of serum. Bordet followed in 1895 with the discovery that if serum is diluted by adding it to a salt or bouillon solution, the cholera

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[43] **Reports of Epidemics, Record Group 112, Entry 52, Box 273, National Archives.**

spirilla still lose their motility and become agglomerated. Durham and Gruber did the first detailed study of the agglutinative and immobilizing propertied of immune serum outside the animal body. The next step was to see if the reaction seen as characteristic of animals that have recovered from a disease could also be found in an animal still afflicted with the disease. If so, this would prove effective as a diagnostic tool.[44]

In 1896, Fernand Widal, a French doctor, described the test he developed to the Medical Society of the Paris hospitals. Widal noted that when human blood from a suspected typhoid case was mixed with typhoid bacilli, the bacilli clumped together. The test proved effective in diagnosing typhoid cases, with success rates ranging from 95 to 100%. [45]

The Widal test was known in the United States, but few American doctors had the knowledge or equipment to perform it. Typhoid fever, when encountered in patients, was sometimes mis-diagnosed as malaria. The differentiating factor was that if a patient did not respond favorably to dosage with quinine, then the fever was assumed to be typhoid. [40]

There was no doubt that Sternberg was aware of the Widal test. In October 1896, he directed Walter Reed to conduct a study of blood agglutination. Reed reported about a month later that he had tested blood samples from 27 suspected typhoid patients in four hospitals. He got positive reactions in all but six cases. Reed said he now had confidence

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[44] **William H. Welch, M.D., "Principles Underlying the Serum Diagnosis of Typhoid Fever and the Methods of its Application." Reprinted from *Journal of the American Medical Association,* August 14, 1897. 5-6.**

[45] **Cirillo, *Bullets and Bacilli,*** 66.

[40] **Ibid., 67.**

t hat the test would be of great assistance in diagnosing fevers now being reported from military stations [41]

Dr. Victor C. Vaughan listed seven items summarizing what he and the other members of the Typhoid Commission held before beginning their duties. They represent a concise statement about the epidemiology of typhoid fever as known in 1898. The first belief was that typhoid fever was a specific disease due to infection by the bacillus identified by Eberth. Next, it was believed that the disease was disseminated by the contamination of drinking water, (i.e., it was a water-borne disease.) Milk other beverages or foods might also be transmission vehicles. The third belief was that it was not known that the disease could be transmitted by other means. Stated another way, the role of the carrier had not yet been identified. Flies were suspected as possible carriers, but this had not been proven. Fourth, the disease could be diagnosed by the agglutination test (Widal test) while the patient was alive, and by pathological findings after death. The fifth belief was that malaria could be diagnosed by finding the plasmodium in blood samples. It was noted that malaria was often confused with typhoid. Sixth, doctors expected to find typhoid amongst those less healthy than average, and particularly those who were or had experienced some form of gastrointestinal ailment. Finally, Doctor Vaughan noted that the greatest mortality was expected amongst those already ailing from gastrointestinal illness. Vaughan went on to state that these views were held by the most competent medical men at that time. These views would later be modified by the studies of the Typhoid Commission .

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[41] **Memorandum dated November 13, 1896, Reports of Epidemics, Record Group 112, Entry 52, Box 273, National Archives.**

It is interesting to note that Circular Number 1, issued by the Surgeon-General on April 25, 1898 stated that flies were no doubt involved in the transmission of disease. [42]

In 1898, members of the medical profession, both civilian and military, were aware of typhoid fever. Many had learned of typhomalarial fever as a possible disease, and many also believed that certain diseases, among them malaria, were common in the southern states. The Widal test was not widely known yet, and often doctors arrived at diagnoses by clinical signs, that is, observation of the patient. The public health movement had made progress in showing that clean water was important in preventing disease. Treatment of water and filtration were known as methods of providing this clean water.

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[42] **Victor C. Vaughan, *A Doctor's Memories*, 369-370; DCR, 1:604-605.**

Chapter 4

Camp Thomas- Chickamauga National Battlefield

"In peace, sons bury their fathers; in war, fathers bury their sons."

Herodotus, *History*.[1]

The background for the typhoid outbreak has been presented in the opening chapters. This chapter addresses two major themes; first, the development of civic boosterism as exemplified in the career of Adolph Ochs, publisher of the *Chattanooga Times* whose boosterism helped to establish the Chattanooga and Chickamauga National Battlefield Park and second, the experiences of doctors dealing with the outbreak as shown by their reports, and comments made by the experts who reviewed them. This discussion is chronological, moving from the efforts to establish the park to its occupation and the outbreak. The roles of newspapers in reporting the outbreak and the results of the investigations of that outbreak are addressed in the next chapter. The way in which the news was initially presented reflected the views of the doctors, since they were the source of news about health in their volunteer units.

Following the Civil War, civic boosters began to establish National Battlefield Parks. Local political figures wanted to commemorate the great battles of the War, and former Union and Confederate soldiers lent their support to these efforts. The last quarter of the nineteenth century was a time of civic "boosterism," in which local notables tried to attract business to their communities. In Chattanooga, one major figure was Adolph Ochs,

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[1] **Heinl, *Dictionary of Military and Naval Quotations,* 38.**

publisher of the *Chattanooga Times*. Ochs hade established himself through the success of his newspaper, but was also involved in civic committees and business ventures. He played a major role in the selection of Chickamauga as an assembly camp. The selection was also influenced by the existence of the National Battlefield Park. As the Army began to mobilize, Regular units were sent there to conduct training and prepare themselves for further service. Their experiences were as a prologue to the arrival of the volunteer organizations. There was a sense of urgency that permeated American society, especially among those citizens involved with military affairs.

In the years following the end of the Civil War, white people in the North and South experienced a gradual reconciliation. The idea of commemorating the war initially took the form of creating Union soldiers' cemeteries at Gettysburg and Antietam and the development of local memorial associations in the South. Later, blue-gray reunions were often held on battlefields. In 1888, a silver anniversary celebration took place at Gettysburg, but with mostly Union veterans participating. The land containing the Gettysburg battlefield was designated for preservation in 1894 as the first National Battlefield Park. The state of Pennsylvania had chartered a battlefield memorial association for Gettysburg and allocated $6,000 in state funds for the purchase of land on the battlefield. Efforts to preserve the battlefield were hampered by remnants of the enmity between North and South and the varying claims of Union veterans groups. In the years immediately following the war, southern associations were often operated by women. They initially dedicated themselves to insuring proper burial of fallen Confederate soldiers. By the 1880s, veterans' organizations in the South began to increase in size and scope.

Southerners placed memorials in cemeteries, and also a few at battlefield sites. [2]

These developments created an environment that ultimately supported the movement to create national military parks. Legislation passed in 1867 authorized the creation of national cemeteries, and in the coming decades, twenty-six cemeteries were organized either at or close to former battlefields. General George H. Thomas, commander of the Army of the Cumberland, created a cemetery in Chattanooga during the Civil War. The 1867 legislation gave this cemetery official status as a national cemetery.[3]

Veterans' organizations formed yet another trend supporting the idea of national military parks. The Grand Army of the Republic (GAR), established in 1866 in Springfield, Illinois, was open to all former Union soldiers, regardless of rank, and grew into a well-organized national body. By 1890, it reached a membership peak of 400,000. The GAR lobbied for veterans issues, supported patriotic events and monuments and established old soldiers' homes. It also lobbied for the creation of national military parks.[4]

In the immediate aftermath of the war, southern women created Ladies Memorial Associations. Initially, they undertook the task of finding the bodies of Confederate soldiers

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[2] **Carol Reardon, *Pickett's Charge in History and Memory* (Chapel Hill, NC: University of North Carolina Press, 1997.) , 110-112, 177-184.**

[3] **Jill K. Hanson and Robert W. Blythe, *Chickamauga and Chattanooga National Military Park: Historic Resource Study*, (Atlanta, GA: U.S. Department of the Interior, National Park Service, January 1999.) http://www.nps.gov/archive/chch/hrs/hrs.htm , 27-29.**

[4] **Stuart McConnell *Glorious Contentment: The Grand Army of the Republic, 1865-1900* (Chapel Hill: University of North Carolina Press, 1992), 15-17, 24, 27-28, 129-134, 143-153, 183-193;Larry M. Logue, *To Appamattox and Beyond: The Civil War Soldier in War and Peace* (Chicago: Ivan R. Dee, 1996), 94, 97, 102.**

and returning them for burial services near their homes. Later, graves of the fallen were decorated and monuments commemorating their service erected. Southern veterans initially created organizations based on military units or geographic locations. During Reconstruction, these groups added the words "Charitable Association" to avoid the prohibition against reorganization of Confederate military units. Later, organizations with larger organizational scopes began to be formed. Groups might be based on a state basis or associated with a brigade or division. The southern associations developed somewhat later than their northern counterparts. The Southern Historical Society was formed in 1869 with the stated objective of collecting and preserving documents and facts relating to the war. In 1871,veterans of the Army of Northern Virginia created their own association. In June 1889, the United Confederate Veterans were formed, bringing together groups from Tennessee and Louisiana. Similar in organization to the GAR, its objectives were social, historical, literary and benevolent. Women's organizations had followed the developments of the men's groups, with wider geographic representation, culminating in the formation of the United Daughters of the Confederacy in September 1894. [5]

Moving to the role of the press, contemporary newspaper stories show how military activity was reported to the public. The character of news reporting can be better understood by describing how news articles were disseminated. Stories that were datelined in Washington, D.C. or New York on one day were invariably reported in the southeast

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[5] **Gaines Foster, *Ghosts of the Confederacy: Defeat, the Lost Cause, and the Emergence of the New South, 1865 to 1913* (New York: Oxford University Press, 1987), 36-46, 104-111;William W. White, *The Confederate Veteran (*Tuscaloosa, AL: Confederate Publishing Co., 1962) 14-28.; Karen L. Cox, *Dixie's Daughters: The United Daughters of the Confederacy and the Preservation of Confederate Culture* (Gainesville: University Press of Florida, 2003.), 9, 13, 16, 18-23.**

press the next day. The southeast was by no means isolated from national news. Editors were aware of the major stories and their editorials reflected this knowledge.[6]

Newspapers received much of their news via telegraph, and subscribed to wire services to receive content. The Associated Press of New York (AP), founded by New York newspapers in 1848 shared the costs of telegraphing news from the European press. By the 1880s, the AP was in a powerful position to provide the news. Regional newspapers could join the AP and use membership to prevent competitors from getting AP service. The New York press emphasis in AP stories was not always liked by its regional clients, and a number of other wire service organizations were formed to compete with it. The AP distributed its news over leased telegraph wires, which could carry 20,000 words per day. For smaller papers, the AP would use rail express to send stereotyped printing plates, which could be set directly into news columns. Southeastern newspapers could cover the latest stories by taking the AP information, and give a local "spin" with commentary on the editorial page. Another characteristic of the newspaper industry during this period was the growth of newspaper chains. During the 1870s and 1880s, the Scripps brothers created the first chain by acquiring a number of newspapers in the Midwest.[7]

Adolph Ochs, editor of the Chattanooga *Times*, was born to immigrant parents. His father, Julius had been well educated in the *Gymnasium* at Cologne before he left Bavaria.

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[6] **These statements are drawn from my research in issues of the Tampa *Morning Tribune*, Florida *Times-Union and Citizen (Jacksonville)*, Atlanta *Constitution*, Chattanooga *Times*, Nashville *American*, Charlotte *Observer and* New York *Times* for 1898.**

[7] **Willard Grosvenor Bleyer, *Main Currents in the History of American Journalism* (Cambridge, Mass: The Riverside Press, 1927.), 396-397, 402-403, 410. The chapter "The Present-Day Newspaper" is an excellent description of the development of chains.**

Shortly after his arrival, the United States was involved in the Mexican War, and the military training Ochs had received served him well when he volunteered. He did not see active service, but ended the war as adjutant of his regiment. Later, when the Civil War began, Julius again volunteered and reached the rank of captain by 1865. He and his wife Bertha settled in Knoxville, and he engaged in businesses with little success. Julius was notable for a firm sense of right and wrong, and he passed this attitude on to his oldest son, Adolph, who was born March 12, 1858. His childhood was marked by hard times, and at the age of eleven, he went to work to help support the family. He began work as a newspaper carrier for the Knoxville *Chronicle,* making $1.50 a week for delivering fifty newspapers each day. Ochs moved into newspaper production as printer's devil, apprentice and journeyman printer. He stopped attending school at the age of fourteen and was a competent printer by the time he reached seventeen. Ochs made friends in Knoxville, and two of them would lead him in a new direction. J. E. MacGowan, an editorial writer, was a former Union Army colonel. Franc S. Paul was another newspaper man, business manager of the Knoxville *Tribune.* In 1877, the three men decided to move to Chattanooga and buy the Chattanooga *Dispatch.*[8]

During the Civil War, Chattanooga had become a strategic point. It is the furthest southeastern limit of the Tennessee River. The city lies in a valley surrounded by mountains with only three gaps. Railroad lines had been built before the war, from

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[8] **Michael Emery, Edwin Emery and Nancy L. Roberts, *The Press in America: An Interpretive History of the Mass Media*, 9th ed. (Boston: Allyn and Bacon, 2000), 161, 235; Gerald W. Johnson, *An Honorable Titan*: *A Biographical Study of Adolph S. Ochs* (New York: Harper and Brothers, 1946.), 14-26; Doris Faber, *Printer's Devil to Publisher: Adolph S. Ochs of the New York Times* (New York: Julian Messner, Inc., 1963.), 31-32.**

Atlanta and Memphis, offering freight connections to Charleston and Savannah. In addition to the river and rail connections, Chattanooga also had mineral deposits, coal, limestone and iron ore. During the war, Chattanooga was a logistics center supporting Union armies. After the war ended, many Union soldiers stayed. By 1878, of 11,500 inhabitants, fewer than 800 were natives. The city was a frontier boom town, with manufacturing, shipping and mining businesses. It offered opportunities for men willing to chance them. [9]

Ochs, Paul and MacGowan arrived in Chattanooga in April 1876. They bought the *Dispatch*, but were not able to make it profitable. Ochs convinced his partners to let him use the printing press by doing small printing jobs, while they moved on to other things. Ochs was able to get enough business to pay off the debts associated with the *Dispatch*. Then he found another opportunity. There was no city directory. Between printing jobs, Ochs gathered the information to print the first city directory. He soon heard that the other newspaper in town, the Chattanooga *Times*, was for sale. Ochs received a loan from the local bank, bought the *Times* in 1878 and convinced his friend MacGowan to write for the paper. He had his father come to Chattanooga for the payment ceremony to sign the legal documents, since Ochs was not yet twenty-one years of age. Ochs' statement of editorial policy promised to make the *Times*, "the indispensable organ of the business,

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[9] **Gilbert E. Govan and James L. Livingood, *The Chattanooga Country, 1540-1951: From Tomahawks to TVA (*New York: E.P. Dutton and Company, 1952.) ,281,288-291,294-298; Johnson, *An Honorable Titan*, 30-37.**

commercial and productive, of Chattanooga" and of the surrounding area. He did not promise to support a political party, or individual politicians.[10]

Ochs' work in researching the city directory had given him a comprehensive knowledge of the whole city. He knew many people, and all of the business owners. He was a tireless supporter of the city. After a yellow fever epidemic in 1878, the *Times* announced, "He that bloweth not his own horn will not have it blown. We have a good horn and we intend to blow it." Ochs pushed two themes in Chattanooga, education and sanitation. The city needed both, and Ochs kept reminding the citizens that it did. [11]

In the large house he built in Chattanooga, Ochs entertained visitors to the city, including politicians like President Grover Cleveland. But there were also visiting newspaper men and business executives. Ochs cultivated them to get good press for the city, but also expanded his knowledge and contacts in the business world. Ochs had earlier formed the habit of collecting letters of praise or recommendation and carrying them with him, sharing the contents with friends. [12]

He was also interested in health care. Four years after he took over the *Times*, Ochs began courting Iphigene (Effie) Wise, the daughter of a well-known Cincinnati rabbi. The two were married in February 1883. During the next five years, Effie had three pregnancies, two of which ended in the death of the infants. The third child, a girl, survived and was named after her mother. Ochs felt that the medical care Effie received in

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[10] **Govan and Livingood**, ***Chattanooga Country*, 314- 321.**

[11] **Ibid., 325-327; Johnson, *An Honorable Titan*, 61-62.**

[12] **Ibid.**

Chattanooga was not adequate, and so he moved her to a Cincinnati hotel as her delivery date neared. The hotel was next door to the office of a doctor Ochs trusted. [13]

During the late 1880s, Chattanooga had a real estate boom. Ochs, like many others, invested widely in a number of enterprises. The newspaper offered him a continuing revenue stream. As the 1890s began, the boom lost way, and the crash of 1893 killed whatever momentum still existed. Ochs was overextended, but remained confident in the future of Chattanooga. In 1892, he had completed a new building for the *Times*, and at its opening had been presented with a grandfather clock and a testimonial book signed by two hundred seventy citizens who had donated to buy the clock. They recognized his continuing civic spirit. Ochs remained confident, but had reached a point where he was borrowing money to pay interest. He had two courses of action open to him; first, to liquidate his non-newpaper enterprises and negotiate a financial settlement with his creditors, or second, to use his skills as a newspaper man to increase his revenue stream. Over the next three years, he looked at a variety of opportunities in the southeast, and even in New York. At the beginning of 1896, negotiations he had underway in Nashville and New York collapsed. Ochs was at a dead end. Then he received a telegram from one of the newspaper men he had hosted in Chattanooga. The New York *Times* was bankrupt and for sale, would he be interested? Within five months Ochs was able to conclude the purchase. [14]

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[13] **Susan E. Tifft and Alex S. Jones, *The Trust: The Private and Powerful Family Behind the New York Times* (Boston: Little, Brown and Company, 1999), 19-20; Johnson, *An Honorable Titan*, 72-75, 83-85.**

[14] **Tifft and Jones, *The Trust*, 26-30; Johnson, *An Honorable Titan*, 85-96,99-100,102-106; *Chattanooga Times*, December 9, 1892.**

Ochs placed his brother in charge of the Chattanooga publication and moved to New York to become publisher of the New York paper. He soon discovered that most copies of the New York *Times* were not being sold. The *Times* had a circulation of 9,000 copies a day. William Randolph Hearst had a morning and an evening edition of his *Journal*, with a total circulation of 430,000. Joseph Pulitzer's *World* sold 600,000 total with his morning and evening issues. There were at least seven other newspapers in New York and most of these had greater circulation than the *Times.* Pulitzer and Hearst were fighting each other with sensationalism, the so-called "yellow press." Ochs felt he could compete with other newspapers by focusing on reporting the news.[15]

Ochs' editorial philosophy in New York was exemplified by the slogan he chose, "All the News That's Fit to Print." He also used the advertising slogan, "It Does Not Soil the Breakfast Cloth." Both were clearly antithetical to the sensationalist practices of the "yellow press". The sources of stories in American newspapers make it evident that, in most cases, wire services were used rather than correspondents. However, the editorial page was a creation of the local editor, and it portrayed the views of the newspaper. In some cases, editors would disagree with stories and present their views. Where the story portrayed their city as having faults, editors were quick to spring to its defense, mobilizing facts and statistics to prove their point. When representatives of the federal government visited the area, press coverage was cordial, and the populace was urged to make the

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[15] **Robert A. Rutland**, ***The Newsmongers: Journalism in the Life of the Nation, 1690-1972*** **(New York: The Dial Press, 1973), 266-267**; **Faber, *Printer's Devil to Publisher* , 89-91**.

visitors feel welcome. Laudatory items about the visitors often appeared, with biographical data, and summaries of the favorable comments made by the visitors.[16]

Ochs' role as a civic booster came to the fore in 1888. Henry V. Boynton, a regimental commander in the Civil War and a correspondent in Washington for the Cincinnati *Gazette*, suggested that Chickamauga be preserved in the same manner as Gettysburg. In early 1889, the Chickamauga Memorial Association was formed by Union and Confederate veterans. The annual meeting of the Society of the Cumberland was held in Chattanooga in September 1889. The assembled Union and Confederate veterans' organizations spoke about the potential for creating a military park at Chickamauga in commemoration of the service of those on both sides of the war. Ochs wrote an editorial published just before the meeting ended, stating that such a park would boost local feelings and also serve as an attraction for visitors. Newspaper men achieved success by fostering growth in their communities and Ochs was certainly sensitive to the value of a site which might draw visitors to the city. Ochs' coverage of the Society of the Cumberland meeting also boasted about Chattanooga's position as a city moving ahead. Local businessmen profited from the visitors attending the meeting.[17]

Chattanooga had grown from a small town of some three thousand inhabitants in 1861 to a railroad connection center and manufacturing hub with a population of more

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[16] **Rutland, *The Newsmongers,* 266-267. Statements on newspaper practice are based on my research of issues of the Tampa *Morning Tribune,* Florida *Times-Union and Citizen (Jacksonville)*, Atlanta *Constitution,* Chattanooga *Times*, Nashville *American,* Charlotte *Observer and* New York *Times* for 1898.**

[17] **Anthonette McDaniel, "Just Watch Us Make Things Hum: Chattanooga, Adolph S. Ochs and the Memorialization of the Civil War." *The East Tennessee Historical Society's Publications* 1989 61:3-5; Chattanooga *Times,* September 18, 1889.**

than forty thousand in 1892. Ochs was an active spokesman for the New South movement and because he had both traveled widely and hosted numerous visiting newspaper men and dignitaries, he enjoyed significant influence. Before the Society of the Cumberland meeting, Ochs had urged local citizens to prepare for the visitors by decorating and cleaning up the city. He ran a special edition of the paper and told local businessmen it was a good way for them to reach potential investors, as well as getting trade during the meeting. [18]

In 1890, another meeting was held in Chattanooga, the first reunion of the United Confederate Veterans. Ochs again took pains to publicize it, and ran another special edition. Later that year, an Ohio congressman and former Union General introduced a bill to establish a national military park at Chickamauga. It readily passed both houses and was signed into law by President Benjamin Harrison on August 19, 1890. The bill established a 7,600 acre area in Tennessee and northwest Georgia, covering the sites of the battles of Missionary Ridge, Orchard Knob and Lookout Mountain. The park would be dedicated on September 18-20, 1895, the thirty-second anniversary of the Battle of Chickamauga. A railway connection was established to serve the battlefield site. The dedication drew thousands of visitors, the Vice-President, a number of cabinet members, twenty congressmen and fifteen governors. One visiting governor was future President William McKinley of Ohio. Total attendance for the three day event was estimated at fifty thousand people.[19]

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[18] **McDaniel, "Just Watch us Make Things Hum", 5,9.**

[19] **Ibid., 9,11-15; White, *The Confederate Veteran,* 28.**

In May 1896, Congress passed a bill authorizing the Army to use Chickamauga and other national military parks as training grounds. Army officers believed that the battles of the Civil War provided important lessons for cadets from West Point and other students. By establishing encampments on the battlefields, these men would be immersed not only in the history, but also the physical characteristics of the battlefield. In addition, state militias were authorized to use the park for training. Henry V. Boynton, the correspondent who was instrumental in initiating the project, remained active in the establishment of the park and became the Park Commissioner in 1897.[20]

On April 13, 1898. Secretary Alger appointed a board of three officers to develop a plan for assembling the Regular Army, and up to 60,000 volunteers. The board reported back to him the next day. They recommended that the Regular Army be immediately concentrated in either southern port cities like Tampa, Mobile or New Orleans or at a single southern camp. If the Secretary of War decided on a single camp, the board recommended Chickamauga Battlefield Park as the site. The Secretary of War later reported that Chickamauga was recommended by Nelson Miles, the Major-General Commanding the Army. On April 15, the regiments of the Regular Army received orders to move to New Orleans, Mobile, Tampa, and Chickamauga. The regiments were

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[20] **John C. Paige and Jerome A. Greene, *Administrative History of Chickamauga and Chattanooga National Military Park* (Denver, Colorado, National Park Service, U.S. Department of the Interior, February 1983.), unnumbered pages in Chapter I, Establishment and Dedication of Chickamauga and Chattanooga National Military Park and Appendix E, Commissioners, 1890-1922. http://www.cr.nps.gov/history/online_books/chch/adhi1.htm**

assembled from some eighty posts in Washington, Idaho, California, Utah, Nebraska, Wyoming, Montana, the Dakotas, Minnesota, Missouri, Oklahoma and Arkansas.[21]

The order to mobilize the Regular Army was accomplished by a single telegraph message, sent to all of the seven Department Commanders in the United States. It directed that all of the light artillery batteries of the five regiments of artillery report to Chickamauga Park, Georgia. In addition it specified that six regiments of cavalry report to Chickamauga. Eight regiments of infantry were sent to New Orleans and seven to Mobile. Finally, seven regiments of infantry were sent to Tampa. A second telegraph message appointed commanders for the four locations, and directed the officers taking command to send their chief quartermasters to the locations to select ground for camps for the arriving troops. This message also required the commanders to take their adjutants-general with them and request those other staff officers they wished to have assigned to their new commands. The departing commanders were to assign acting adjutants-general in their old headquarters to continue the operations there. Major General John R. Brooke was assigned to command at Chickamauga. On April 25, the camp site at Chickamauga was officially named Camp George H. Thomas. [22]

In early May, Regular units began movement out of Camp Thomas. Orders were issued on May 10 sending all of the cavalry regiments to Tampa, except for the Second Cavalry which was sent to Mobile. Five Regular infantry regiments were sent from

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[21] **Cosmas,** ***Army for Empire****,* ; **DCR 1;266, 256**.

[22] ***Correspondence Relating to the War with Spain*****, 1: 7-8; DCR 1:256.**

Chickamauga to Tampa and the order specified they were to be formed into two brigades and general officers appointed to command each of the brigades.[23]

President McKinley made the first call for volunteers on April 23, 1898. His proclamation called for a total of 125,000 volunteers apportioned among the states, to serve for a period of two years unless sooner discharged.The act approved by Congress on April 22, 1898 established two branches designated as the Regular Army and the Volunteer Army of the United States. Volunteer troops were to be organized into divisions of three or more regiments. When more than three divisions were present, the President could organize them into army corps of no more than three divisions. The apportionment called for a total of twelve regiments and seventeen troops of cavalry, sixteen batteries of light artillery, eight batteries of heavy artillery and one hundred and nine regiments and nine battalions of infantry. As might be expected, the most populous states were asked for the most troops. Pennsylvania, New York, Ohio and Illinois were to contribute a total of forty-two infantry regiments. Smaller states contributed battalions rather than regiments. For example, Idaho and North Dakota each contributed two battalions and Wyoming one. Some states contributed both regiments and battalions to meet their total requirement. [24]

In addition to the forces listed in the first call for volunteers, the April 22 legislation also permitted the Secretary of War to organize companies, troops, battalions or regiments possessing special qualifications from the nation at large. This was the enabling act for the formation of the First, Second and Third United States Volunteer Cavalry Regiments. The

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[23] **Ibid., 11.**

[24] ***Report of the Adjutant General to the Secretary of War, 1898,* 9-11**.

First U.S. Volunteer Cavalry Regiment was the "Rough Riders." [25]

The President issued the second call for volunteers May 25, 1898. This document asked for an additional 75,000 men; sixteen battalions of light artillery, three battalions of heavy artillery and twenty-two regiments, ten battalions and forty-six companies of infantry.[26]

During early May, Secretary Alger, along with General Miles and Adjutant General Corbin prepared for the volunteer mobilization. Miles had hoped to have the volunteers assemble in state camps where they would receive all of their equipment before moving to federal facilities. By May 14, the three men decided it would be better to bring the volunteers to federal camps for equipment, training and further organization into brigades, divisions and corps. The first regiments to complete the process would be assigned to overseas expeditions. On May 15, the War Department issued its orders for the concentration of volunteers. It assigned fifty-three regiments of infantry, eleven batteries of artillery and forty-two troops of cavalry to Chickamauga, twenty infantry regiments were sent to Camp Alger, Virginia, thirteen infantry regiments were sent to Tampa and ten to San Francisco.[27]

The mobilization occurred rapidly. Between May 15 and June 2, 43,983 men arrived at Chickamauga. These soldiers comprised forty-four regiments of infantry, three regiments of cavalry and fifteen batteries of artillery. General Brooke organized the

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[25] **Ibid., 9; Cosmas**, ***Army for Empire,*** **133-134.**

[26] ***Report of the Adjutant General to the Secretary of War, 1898,*** **11.**

[27] **Cosmas**, ***Army for Empire,*** **131-132.**

infantry into two corps, the First and Third. The First Corps had three divisions, each containing nine regiments. The regiments were further grouped into three brigades, each of three regiments. The Third Corps had two divisions, one of eight regiments and the other of nine regiments. On June 2, the Fifth Maryland Volunteer Infantry was sent to Tampa, Florida. Two more regiments arrived on June 11 and 17. [28]

Table 1. Organizations at Camp Thomas

First Corps	Third Corps
First Division	First Division
Second Division	Second Division
Third Division	

*** The First Division, First Army Corps was withdrawn for the Puerto Rico campaign.**

Table 2. Second Division, First Army Corps Organization

First Brigade	Second Brigade	Third Brigade
31st Michigan	158th Indiana	1st Pennsylvania
160th Indiana*	6th Ohio	14th Minnesota
1st Georgia	1st West Virginia	2d Ohio

***Withdrawn and sent to Newport News, Va. as part of the Puerto Rico campaign.**

The Second Division, First Army Corps had three brigades. The first brigade was composed of the 31st Michigan, 160th Indiana and 1st Georgia. The 160th Indiana was

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[28] **TCR, 8,16,29,22,26-29,37,41,49,55,61,64,73,87,93,95,103,111,120,123,127-128,134,144,147-148,153,155,162-163,167-168,177,181-182,185,190-191,203,214-215,220-221,228-229,233,239,245-246,250,256-257,263,270,272,274,277,279,281-283.**

withdrawn and sent to Newport News, Va. as part of the Puerto Rico operation. The second brigade had the 158th Indiana, 6th Ohio and 1st West Virginia. The third contained the 1st Pennsylvania, 14th Minnesota and 2d Ohio. This division was located near day's Mill in the northeastern corner of Camp Thomas.

Table 3. Third Division, First Army Corps Organization

5th Pennsylvania	8th Massachusetts	2d Missouri
12th Minnesota	21st Kansas	1st New Hampshire
1st South Carolina*	12th New York	9th Pennsylvania

*Withdrawn and sent to Fernandina, Florida

The Third Division, First Army Corps also had three brigades. The first had three regiments, the 5th Pennsylvania 12th Minnesota and 1st South Carolina. The 1st South Carolina was withdrawn and sent to Fernandina, Florida. The second held the 8th Massachusetts, 21st Kansas, and 12th New York. The third brigade was composed of the 2d Missouri, 1st New Hampshire and 9th Pennsylvania. This division was along a road near the west edge of Camp Thomas, south of the Second Division's area.[29]

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[29] Ibid., 106, 157. As shown in the tables, the First Division, First Army Corps was withdrawn from Camp Thomas for the Puerto Rico campaign. Individual regiments listed in the other divisions were also withdrawn. Their departure dates and reasons are noted in the tables. Locations described are from a map of Chickamauga National Military Park donated by Private Howard Schoonover with his response to the Spanish-American War Veterans and Widows Survey. U.S. Army Military History Institute, Carlisle, PA., Box 51,

Table 4. First Division, Third Army Corps Organization

First Brigade	Second Brigade	Third Brigade
14th New York	2d Nebraska	3d Tennessee
1st Missouri*	2d New York	1st Vermont
5th Maryland*		8th New York

*Withdrawn and sent to Tampa

The First Brigade, First Division, Third Army Corps had the 14th New York, 1st Missouri and 5th Maryland. The 1st Missouri and 5th Maryland were withdrawn and sent to Tampa. The second brigade held the 2d Nebraska and 2d New York. The third brigade was composed of the 3d Tennessee, 1st Vermont and 8th New York. The division area was located in the southern and central part of Camp Thomas.

Table 5. Second Division, Third Army Corps Organization

First Brigade	Second Brigade	Third Brigade
2d Kentucky	5th Missouri	1st Maine
9th New York	2d Arkansas	52d Iowa
1st Arkansas	69th New York*	1st Mississippi

* Withdrawn and sent to Tampa, Florida.

52d Iowa Volunteer Infantry Regiment.

The Second Division, Third Army Corps had in its first brigade the 2d Kentucky, 9th New York and 1st Arkansas. The second brigade contained the 5th Missouri, 2d Arkansas and 69th New York. The 69th New York was withdrawn and sent to Tampa, Florida. The third brigade had the 1st Maine, 52d Iowa and 1st Mississippi. This division occupied areas in the center of Camp Thomas. The cavalry regiments and artillery batteries were located along a road running from north to south through the center of the camp. Their areas were north of the divisions of the Third Army Corps. [30]

The occupation of Camp Thomas set the stage for the typhoid outbreak. The material presented to this point has been essential background to understand the situation as it existed in May 1898. The voices heard to this point have been those of contemporary book and newspaper accounts, and descriptions from biographies of significant figures. The voices still to be heard are those of the medical personnel who dealt with the outbreak, the officers and men who were affected by it and the doctors who investigated the outbreak. The testimony of the officers and men will be addressed in the next chapter as part of the two major investigations touching on the events at Camp Thomas. The results of these investigations will also be discussed there.

The Typhoid Commission provided summary information in its report for each military unit it studied. It included the date and location the unit was assembled, the date the unit was mustered into United States service and the date it arrived at its initial station; Chickamauga, Camp Alger, Tampa or San Francisco. A second camp, named Cuba Libre was created in Florida at Fernandina, near Jacksonville, and some units were sent there

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[30] Ibid., 207, 266; Schoonover Map.

from Camp Thomas. The Commission also noted the number of men in the unit when it arrived, and the strength when it departed. These two figures are important in understanding the outbreak. Some units had fewer men than they were authorized when they arrived and subsequently received additional soldiers to bring them to full strength. Calculating the attack rate and death rate for typhoid fever using the arrival strength would cause the percentage of those afflicted to appear larger. In preparing this study, these figures have been calculated using both arrival and departure rates, and the departure strength-based percentages used. The Typhoid Commission also identified the first date of probable typhoid fever infection and the first date of confirmed typhoid fever. In the case of units that were sent to other locations, the commission attempted to calculate the number of cases developed at Chickamauga and those that occurred elsewhere. The records for some units were not available, and the commission noted these omissions. The last item in the commission's summary was a comparison of diagnoses for probable cases of typhoid.[31]

The commission report included discussion of each unit's monthly reports of disease and doctors' comments when they were made with these reports. The report for some units ended with a section titled "Communications from the Surgeons of (Unit designation)." Not all regimental surgeons offered their comments. These sections have rarely been considered in the literature, and are deserving of more attention. They represent commentary by those most familiar with the unit and note living conditions. Health issues and the opinions of the unit's medical personnel at the time diseases were

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[31] Ibid. The page citations in the previous footnote are those for summaries of each individual unit.

diagnosed. They reflect the conditions surrounding initial diagnoses. For some units, the Typhoid Commission was able to view individual soldiers' case files, and where this was possible, the files are briefly summarized in the report. This kind of detail includes reports of diagnoses changed when men were sent to the hospital. It is important to note that the level of detail varied between units. Some units had monthly reports, case files and commentary by the unit's doctors. Others lacked one or more of these.

The number of units and variables make it impossible to provide a discussion of each. For this reason, a representative sample will be used. One which suggests itself is to exclude those units not at Chickamauga for the entire period. All of the units in the First Division, First Army Corps were withdrawn from Camp Thomas during July and were intended to participate in the invasion of Puerto Rico. Some regiments were withdrawn from other divisions making a total of fourteen infantry regiments that left Camp Thomas. The thirty regiments that stayed remained there for the whole period of the typhoid outbreak. [32]

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[32] **In addition to the infantry, there were three cavalry regiments that stayed at Camp Thomas throughout the outbreak. The total strength of the infantry regiments at arrival was 41,760 men. After the fourteen regiments were withdrawn, the infantry strength was reduced to 28, 684. The cavalry regiments added 3,089, so the total of all regiments staying at Camp Thomas was 31,773. There were a number of artillery batteries grouped into a light artillery brigade, with a total strength of 1,893 men and a small number of Hospital corps men and female nurses. The remaining major units were two divisions of the First Army Corps, two divisions of the Third Army Corps and three regiments of cavalry. These are the major organizational elements from which material is drawn about the outbreak. As noted above, one of the problems encountered by the Typhoid Commission was gaps in medical records. The Commission was unable to get all details for the artillery units, hospital corps and female nurses. Specifically, the number of typhoid cases and departure strength were missing for the artillery and only dates of departure and reason was available for the female nurses. The commission found hospital records for 209 cases of typhoid among hospital corps men, with 22 deaths. Of 23 nurses, five left because of typhoid. No deaths were reported. Because of the significant lack of**

The number of regiments involved would make a unit-by-unit analysis cumbersome. A representative sample was created by selecting units from each of the main organizational elements. Two regiments were selected from each of the four divisions, and one of the three cavalry regiments was also examined. The sample contains eight infantry regiments of the twenty-nine remaining after units were transferred elsewhere. This is slightly more than one-third of the units. The single cavalry regiment represents one-third of this group. Units in the sample were selected so that no state had more than one unit in the sample. Two units were selected because they had regimental histories covering the Camp Thomas period. Two units were selected because of reputed health or disease; one was healthy, the other thought diseased. Selection of the rest was made at random, and no attempt was made to choose these units on the basis of disease rates, quantity of report data available or number of surgeons' reports. Thus, units are a cross-section, with some having detailed reports and others little data.

Where possible, commentary from the doctors in each unit of the sample is included. Where reports contain initial diagnoses, they are included. In some units, doctors did not comment. Next, comments made by the Typhoid Commission are presented. In addition to remarks about units, the Typhoid Commission also provided a summary overview for these organizational elements. Citations from these summaries offer the view

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detail, the artillery, nurses and hospital corps were excluded from the sample Ibid., 8, 16-17, 20, 22, 26, 27-28, 29, 37-38, 41, 49,55-6,61,64,73, 87,93,95,103,111,120,123,127-128,134.144.147-148,153,155,162,163,167-168, 171,181-182,190-191,203,214-215,220-221,228-229,233,239,245-246,250,256-257,263,270,272,274,277,279,281-283.

of medical men more experienced in disease. The final conclusions of the commission are presented in the next chapter.

From the Second Division, First Army Corps, the 2d Ohio Volunteer Infantry was the first unit selected. This unit arrived at Camp Thomas on May 18, and had 815 men on its rolls. During its stay, it was reinforced to a total of 1,297 men. There were 403 cases of typhoid in the regiment and 13 of these died. The attack rate, or percentage of cases versus the total strength was 31.07 %. This was the highest attack rate in the Second Division. However, the morbidity rate, or number of deaths as a percentage of cases was 3.23 %, the second lowest in the division. Of the 403 cases listed by the Typhoid Commission, 192 were diagnosed as typhoid and 170 as malaria, with the rest diagnosed as diarrhea (23), gastritis (17) and enteritis (91). [33]

Doctors in the regiments were the first to see soldiers when they became ill. Their voices describe initial diagnoses and medical conditions. Both the comments by regimental surgeons and the variation in comments among different regiments reflect the background and medical understanding of the doctors. The monthly reports, where available, show what the regimental surgeon and his assistants believed to be the diseases afflicting their men.

Dr. C. S. Mueller signed the 2d Ohio's May and June monthly sick reports. In May, he commented on an increase in diarrhea and stated it was possibly due to excessive drinking of water. He says the water supply for the camp was of good quality, but quantity was deficient. In June, Dr. Mueller said the general health of the command was good, but

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[33] Ibid., 102-103.

noted a number of cases of fever, treated with calomel. He thought they were ptomaines. The surgeon noted the arrival of four hundred and six new recruits. He said the water supply was scarce and the quality bad after the rains. He considered condemning the well used for drinking water. The monthly sick reports for July through October were signed by Captain Louis J. Stueber, who made no comments. The Typhoid Commission assembled a list of all 403 cases of possible typhoid. In many cases, diseases diagnosed by the regimental surgeon had the diagnoses changed when the men went to the division hospital. The records also bring out an important point. Many men were removed from duty, listed as sick and sent to the division hospital. After the demobilization of units began, many men were furloughed from the hospital and sent home. The Second Ohio left Chickamauga August 28, and moved to Knoxville, Tennessee. The Typhoid Commission found that 160 cases of probable typhoid developed at Camp Thomas. The balance of the cases developed at Knoxville in late August, September and October. One hundred seventy cases occurred in September. [34]

Several points of interest occur in this regiment's sick history. First, the unit received a large number of recruits after arriving at Camp Thomas. Second, many cases had the diagnosis changed at the hospital. Third, many cases developed after the unit left Camp Thomas, although the first probable case of typhoid was reported on May 20, only two days after the regiment arrived. Fourth, many men diagnosed with typhoid were furloughed in October. These points will prove important as other regiments are discussed.

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[34] Ibid., 96 -103.

The second regiment to be examined in the Second Division is the 158th Indiana Volunteer Infantry. It arrived at Camp Thomas on May 18th, the same day as the Second Ohio. The Indiana regiment had 1,023 men when it arrived, and was reinforced to an ending strength of 1,299. With 128 cases, it had a much lower attack rate, of 9.94%. But the unit's mortality rate was 7.81%, the highest in the division. The Typhoid Commission noted that the only records available from this unit were its monthly sick reports, and those from the Second Division hospital. Captain Homer I. Jones was the acting regimental surgeon. His first monthly report covered the period in May after the unit's arrival at Camp Thomas. He commented that there had been some diarrhea, but blamed it on the change of water and improper eating. He described the general sanitary condition of the camp as good. He did diagnose three cases of intermittent malaria.[35]

The June report listed five cases of intermittent malaria and three of remittent malaria, along with one of acute diarrhea and one of dysentery. The report stated that there had been what Dr. Jones described as a "slight epidemic of diarrhea," but that the general health of the command was good. During the month of July it appeared that typhoid began to spread. There were 19 cases of malaria, two of diarrhea, two of typhoid fever and seven of dysentery. The Typhoid Commission found that the dysentery cases were probably typhoid, and by cross-checking the records of the division hospital, found that there were another eleven cases of probable typhoid fever. Five of these cases were later furloughed. The commission commented that most of the diseases diagnosed as malaria in this regiment were actually typhoid. By August, illness began to spread. Of the

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[35] **Ibid., 62,64.**

175 cases listed on the monthly report, 129 were probable typhoid. One hundred twelve of these cases were initially diagnosed as malaria. Hospital reports showed that seventy of these cases were later diagnosed at the hospital as typhoid. Five cases diagnosed as malaria was changed to typhoid in a revised August monthly report. The regiment was sent to Knoxville August 26 and disbanded September 17. The September report has 70 cases of malaria, four of acute diarrhea and two of typhoid. The Typhoid Commission commented that it would be interesting if they could follow the members of the regiment after they went home and determine how many had typhoid.[36]

The surgeons of the 158th Indiana provided additional communications. There were three doctors. Major Frederick Charlton was the senior officer and regimental surgeon. Captain Jones and First Lieutenant Paul Barcus were the assistant surgeons. Both Jones and Charlton submitted information. In addition, Jones stated that the encampment was constricted in size and close to the camps of both the 6th Ohio and the 1st West Virginia. Jones commented that the wells within their lines were rapidly exhausted and water had to be brought from two local springs, first Crawfish Springs and later Blue Spring. He observed said that sinks could not be dug deeper than 18 to 20 inches. The clay soil held moisture and rains caused the sinks to overflow, polluting the ground around them. Jones said the sinks were one of seven sources of typhoid. The other six were: drinking of water not boiled, especially from the local shallow wells, flies spreading the infection from the sinks to the kitchens and mess tents, crowding of troops too closely, failure to move the campsite periodically, improperly prepared food and eating of food bought from hucksters.

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[36] Ibid., 63-64.

Major Charlton made five points in his comments. First, he said that the regiment arrived without medical supplies because the governor of Indiana had held them back as state property, only releasing them after urgent requests. Second, many mild cases of typhoid were misdiagnosed as dysentery, diarrhea, malaria or enteritis. Third, Charlton said there was very little typical malaria in Chickamauga. Fourth, he said that there were "very many " men who developed typhoid fever after the regiment was mustered out. Charlton's final comment was that he felt after the regiment moved to Knoxville, the men were so happy to be out of Chickamauga that many of them did not report themselves as sick until absolutely necessary. [37]

Two items are of particular note. The first was the practice of furloughing men from the hospital. This was common practice, but may have often sent men who were not completely well back into civil society. The second was the diagnoses, particularly of malaria. Charlton states there was, in his opinion, little malaria and also says cases were mis-diagnosed. Yet, all of the monthly reports contained many cases reported as malaria. As the regimental surgeon, perhaps Charlton should have been challenging these diagnoses, especially after typhoid became prevalent at Camp Thomas.

The first regiment selected from the Third Division, First Army Corps was the 8th Massachusetts Volunteer Infantry. It arrived on May 20, with 932 men. By the time it departed Camp Thomas, the strength had risen to 1,317. There were 272 cases of typhoid fever, an attack rate of 20.65%, resulting in 19 deaths for a morbidity rate of 6.99%. The disease experience placed the regiment in the middle of its contemporaries. Three

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[37] **Ibid., 65**

regiments had lower morbidity and four higher. The 8th Massachusetts had the lowest attack rate in the division.[38]

The Typhoid Commission noted that the regiment was of special interest because it was stated that all water was boiled and also that typhoid only appeared late in the summer. The commission went on to say that their listing of probable cases of typhoid supports this statement. There are, however, no monthly sick reports for June, July and August. The May report lists a total of 87 sick. Of these, there were seven diagnosed as diarrhea, 11 as dysentery and 21 gastroenteritis. Thirty-nine cases of some sort of intestinal upset occurred within ten days. The September report had 516 cases of gastroenteritis, 52 of diarrhea, 87 of malaria and 27 of typhoid fever. In a regiment of 1,317 men, there were 708 on the sick report, and of these, only 26 were other than intestinal ailments.[39]

The Typhoid Commission examined hospital records for the regiment's soldiers in the absence of monthly sick reports. They were able to document 272 probable cases of typhoid fever. They noted that all but 55 of these cases manifested themselves after the regiment had been sent to Knoxville, Kentucky in August. There were 22 cases in the last week of August, 123 during September, 50 in October and 22 in November. [40]

Major Cogswell, who apparently was the regimental surgeon, made a statement about the illnesses. He said that the prevailing disease was "gastroenteritis, " due to

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[38] **Ibid., 127.**

[39] **Ibid., 128, 123.**

[40] **Ibid., 123-128.**

insufficient drinking water, not enough fresh meat and the change from a cool climate to a hot one. He stated that all drinking water was boiled, and believed that the local water contained laxative substances. He thought that the amount of drill was excessive. Major Cogswell's personal notes of 200 cases of gastroenteritis showed that blood was claimed to have been present in the stools. In 100 of these cases, fever temperature reached 104 degrees, but dropped within 48 hours when patients were given boiled water or milk, fresh beef broth and stimulants, as well as salts.[41]

The Typhoid Commission cited a report made to the Surgeon-General on August 7, 1898 by Deputy Surgeon General Lieutenant Colonel Woodhull. He stated that general instructions were given to boil all water, whether filtered or not. Woodhull said the only regiment where he could be sure that this order was actually enforced was the 8th Massachusetts. He noted the regiment had an overall sick rate of 2.56 percent, even though their camp site was wet and low and remittent fever had occurred during the two weeks before his report. [42]

The second regiment to be examined in the Third Division, First Army Corps was the 1st New Hampshire. This unit arrived at Camp Thomas on May 22, with an initial strength of 1,007 men. They were later reinforced to a total of 1,296. The regiment suffered 297 cases of typhoid fever, an attack rate of 22.92%. Of these, 30 patients died, for a

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[41] **Ibid., 123.**

[42] **Ibid., 128. Cirillo, *Bullets and Bacilli,*, 125-126. Lieutenant Colonel Woodhull was noted as a sanitarian. In 1888-89, as a Major, Woodhull taught military hygiene at the U.S. Infantry and Cavalry School to classes of junior officers. The Typhoid Commission report does not always identify the affiliation of people like Woodhull. He is listed as a Major in some parts of the report.**

morbidity rate of 10.10%. Attack rates in this division were somewhat similar in nature, ranging from 20.65% to 33.33%. The morbidity rate for the 1st New Hampshire was the highest in the division.[43]

The May sick report listed 35 cases of diarrhea, 49 of dysentery, four of acute fever, five of dyspepsia and one of enteritis. Ninety-four cases of intestinal ailments reported between May 12 (while the regiment was in state camp, before its mustering into federal service) and May 31, out of a total of 148 sick. The June report had 331 cases of diarrhea, 11 of malaria, 12 of typhoid fever and two of dysentery. The unit's strength at the time was 989 men, and the total sick report was 372. All but 16 of those reported sick had intestinal ailments. This computes to an attack rate for intestinal ailments of almost 36%. In July, the unit got more men, but also had more sickness. The sick list totaled 468 men out of a total strength of 1,164. Of the 468 sick, 47 were other than intestinal diseases. There were 282 cases of diarrhea, 43 of malaria, 95 of typhoid fever and one of dysentery. The strength was not given for the August report, but we know that the unit had 1,296 men when it left Camp Thomas on August 26.

In August, there were 143 cases of typhoid, 82 of malaria and 315 of diarrhea or a total of 540 intestinal cases out of 583 sick. The Typhoid Commission concluded that 261 of the 297 cases of typhoid developed at Chickamauga, and an additional 36 occurred while the regiment was in Lexington, Kentucky. The commission noted that 59 of the cases were diagnosed as malaria, 24 as diarrhea and one of gastritis.[44]

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[43] **TCR, 153.**

[44] **Ibid., 149-153.**

The surgeons of the 1st New Hampshire were Major James T. Greeley, surgeon, Lieutenant Charles E. Congden, assistant surgeon and Lieutenant Russell Wilkins, assistant surgeon. Major Greeley said that the camp was inspected on a regular basis. He said that the camp was kept neatly, with sinks covered and ditched. He noted that the clay soil held refuse and when it rained the sinks overflowed. Instructions were that sinks should be at least 8 feet in depth and filled in when the contents reached 18 inches below the soil level. Greeley noted that the rocky soil made it impossible to dig to 8 feet. He said the men were careful in the use and maintenance of the sinks. He observed that water was to be boiled but that this was almost impossible until enough barrels and boilers were obtained through the quartermaster's department. He said that as a result, for many weeks, unboiled and polluted water was consumed. Greeley reported that he was detailed to the division hospital and one of his assistant surgeons detailed to the ambulance company. He said that all sick, except those only indisposed were sent to the division hospital by ambulance. The regimental hospital became only a dispensary until the typhoid fever cases increased. The regimental hospital had capacity of 56 beds and Greeley noted that the beds and most medicines, along with ice, milk and malted milk were supplied by the New Hampshire State Aid Society fund. Greeley said that the division hospital was usually unable to honor his requisitions for medicines. As a final note, Greeley said the regiment remained in one camp, in a very rocky area for most of their time at Camp Thomas, and moved to a more open site shortly before leaving for Lexington.[45]

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[45] **Ibid., 154.**

Greeley's report brings out several items of interest. The first is the role of the regimental hospital. With two of the three doctors assigned elsewhere, it would be hard to offer care. The monthly reports give a picture of a military unit almost crippled by sickness. The number of assorted ailments that were intestinal in nature would seem to suggest that the Typhoid Commission's estimates might well have been too conservative. The second is the issue of medicine and supplies. Local and state aid organizations were willing to come and assist units, and with large numbers of sick, their assistance was welcomed. The issue of rocky ground, clay that holds, but does not absorb waste and difficulty in digging sinks to the depth needed has been mentioned earlier. The issue of moving from one location to another is also noted. Greeley's comments seem to indicate that the men made an effort to comply with sanitation rules. If there were three or four men who were ill out of every ten, as seems likely from the sick reports, it might be difficult to carry out sanitation activities.

The First Division, Third Army Corps is the next major organization to be examined. The first regiment chosen is the 2d Nebraska Volunteer Infantry. This regiment arrived at Camp Thomas on May 22d, with an initial strength of 1,020 men. By August, the total had risen to 1,303. The 2d Nebraska had a total of 167 cases of typhoid, an attack rate of 12.82%. Only one other unit in the division had a lower attack rate. However, the morbidity was 22 deaths for a percentage of 13.17. This was the highest percentage in the division.[46]

When the 2d Nebraska submitted its first sick report, Major M.A. Hoover noted

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[46] Ibid., 177.

that of 114 men sick, 81 suffered from diarrhea and 3 from dysentery. He said that the medical condition of the camp had been excellent, except for the results of the move into a different climate. He noted that diarrhea and dysentery had been prevalent and that an order had been issued that all water was to be boiled. Dr. Hoover also said there were some cases of measles, and these had been placed in a separate tent under guard to prevent further contamination of the unit. The June report was submitted by Captain M. A. Robert. There were 287 men sick, with 203 suffering from diarrhea, 1 from typhoid fever, 2 from intermittent fever, 4 from dysentery, and 1 from gastritis. Captain Robert used virtually identical language, describing the medical condition as excellent, and like Hoover, stating that the exceptions were incident to and consequent on the change of climate and water. Robert also again noted the order to have all water used for drinking boiled.[47]

In July, Captain Robert again submitted the report and said the prevailing disease were diarrhea and dysentery, "due to change of climate and water." He observed that all water for drinking had been boiled and that water used in cooking was either boiled or filtered. The July report listed 287 men sick, with 160 of these from dysentery. There were 64 sick from other diseases. Several new diagnoses are mentioned. In addition to 6 men with typhoid, there are 27 cases of malarial fever, 2 of enteritis, 3 of gastroenteritis and 1 of gastritis. Clearly, the men of the 2d Nebraska were suffering from intestinal complaints. In August, Major Hoover again signed the report. There were 282 men sick and Hoover commented that the prevailing diseases were malarial fever, remittent and intermittent fever, with complications of diarrhea ad dysentery. The sick report showed 16 cases of

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[47] **Ibid.,174.**

typhoid fever, 115 of malarial fever and 114 of diarrhea. There were single cases of gastroenteritis and gastritis, 4 of enteritis and 2 of dysentery. Hoover noted that the ailments were due to poisonous emanations from infected soil in Chickamauga Park. There was no report for this regiment after August.[48]

The Typhoid Commission concluded that the 167 cases of typhoid were diagnosed as follows: 56 as typhoid, 82 as malaria, 23 as diarrhea, 3 as enteritis, 1 as gastritis and 1 each as intestinal colic and dysentery. The board commented that it was unlikely that it had not obtained the full list of typhoid cases. Major Hoover submitted a long commentary describing the medical experiences of the 2d Nebraska. He noted that there were cases of both diarrhea and measles during the assembly of Nebraska volunteers, and he was the only surgeon present at the assembly camp. Hoover said the regimental area at Camp Thomas was full of foliage and undergrowth, but that this was cleared away. He stated that the iron water pipes running from Chickamauga Creek were laid on top of the ground, and consequently the water received was so hot that the horses could not drink it. He said that the order to boil water was followed by an attempt to filter the water. He said this failed due to the amount of solid refuse clogging the filters. Hoover said water was brought from Crawfish Springs and was good for a period, but later became unfit to drink. Water was then brought from Blue Springs. He said the supply of good, pure water was inadequate to the demand and he felt it was an important factor in the spread of typhoid and dysentery.

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[48] Ibid.

Hoover said the regiment was in good condition for the first month in camp. From July on, malarial fevers became numerous and in many cases were called typhoid. [49]

Hoover was reassigned on June 1 to command the First Division Hospital and did not return to the regiment until August 30. Thus, he could only report on cases received in the hospital. He stated that the first case of pronounced typhoid was seen on July 1. He said numerous typhoid cases were received, but the proportion was not alarming in comparison with malarial cases. Hoover stated that microscopic examinations of the blood were made in a number of suspected typhoid cases, and in a few cases showed the lesions characteristic of typhoid. He said every case of typhoid had the characteristic red spots, in some cases very numerous. The only typhoid patients who died were those with intestinal hemorrhage. He said the typhoid death rate in the hospital was very small, with most cases convalescing in two to five weeks. The greatest mortality occurred on the regiment's return to Fort Omaha. The camp there was good, but weather was cold and wet and many cases developed. Hoover thought that some of these cases were "so-called" typhoid, but he said they were malaria, jaundice and remittent and intermittent fevers. Major Hoover stated that the disease at Camp Thomas could have been reduced by a change of camp sites at Camp Thomas early in the summer. But, to him the water supply problem was critical and could not have been avoided except by moving the troops to another camp. Hoover said that there were only 20 deaths rather than 24 from typhoid, but the Typhoid Commission

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[49] **Ibid., 177-178.**

disputed his position and cited three deaths Hoover called non-typhoid. In each case, the attending physician stated death was from typhoid fever. [50]

Major Hoover's comments are notable. He blamed disease on infected soil, which suggests he is a supporter of the miasmic theory of disease. But his commentary on hospital diagnoses appears to be cognizant of the latest trends in medicine. Hoover insisted that most of the cases were really malaria. The records of individual cases in the Typhoid Commission report show a number of cases diagnosed as malaria where the hospital changed the diagnosis to typhoid fever.

The second regiment from the First Division is the 8th New York Volunteer Infantry. This unit arrived at Camp Thomas May 25, 1898 with 849 men. By its departure, the regiment had attained a strength of 1,301 men. There were 425 cases of typhoid, an attack rate of 32.67%. Of these cases, there were 22 deaths, for a morbidity percentage of 5.18%. This was the second lowest percentage of deaths in the division.

The initial sick report was signed by Major Neff, surgeon of the regiment. There were 43 men sick during the period May 26 to 31. There were 4 cases of intermittent malaria, 11 of diarrhea, 7 of gastro-enteritis, 4 of dysentery and 17 other complaints. The June report had 115 sick, with 5 dysentery, 27 diarrhea, 22 intermittent malaria, 6 intestinal colic, and 12 gastro-enteritis, with 43 other diseases. Major Neff commented that intestinal diseases and malarial fever were due to changes in climate and diet. Neff said the cap has been thoroughly policed. An effort was made to prevent men from using water from surface springs. Neff repeats his comment about intestinal diseases and malaria in

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[50] Ibid., 177-178.

this report. The report in August has 69 cases of typhoid fever, 518 of diarrhea, 7 of gastritis, 334 of intermittent malaria, 147 of remittent malaria, 39 of intestinal colic, 13 of dysentery and 4 of pernicious malaria, with 7 other diseases. The regiment's strength in August was 1,275. The sick numbers listed above total 1,138. This means that in August, only 137 men in this regiment were not sick in some way. Major Neff commented that the prevailing diseases were intermittent malarial fever, intestinal colic and typhoid. He said they were caused by insufficient tentage and impurity of water in connection with change of climate and diet. Neff made the same comment in September. The sick report was much smaller,

only 475 men. There were 164 cases of typhoid, 58 of intermittent malaria, 41 of remittent malaria, 21 of malaria, 63 of diarrhea, 16 of intestinal colic, 9 of dysentery and 83 other diseases.[51]

The Typhoid Commission noted that inaccuracies in the records made their task difficult. They divided the cases into groups, with the first being the 190 recognized cases of typhoid fever. The second group was 187 men with probable typhoid fever not diagnosed as such in either the regiment or the hospital. The third list was those found on the regimental sick reports, but not listed in the groups above. This list totals 628 men. The commission did a critical study of the sickness in this regiment. They concluded that the dates given for the onset of typhoid were probably wrong, and men were probably sick before those dates although there were some men who reported no illness. When the regiment was returned to New York in September, some men were admitted to hospitals and diagnosed with typhoid,

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[51] **Ibid., 191-192.**

but had actually reached the convalescent stage by that time. The commission also stated that it appeared that in the military, cases of typhoid were far advanced before they were recognized. They said that with this many men sick, and occupying the safe areas, eating together and sharing mess and latrine facilities, the likelihood of infection being spread was high. They observed that in military practice, typhoid fever was often apparently an intermittent disease. They discussed two patients who were diagnosed with diarrhea and intermittent malaria, released back to duty and then readmitted and finally diagnosed with typhoid. The commission noted the many diagnoses of malaria, and commented that Professor Dock and Doctor Craig had found only one or two cases of malaria among hundreds of cases at Camp Thomas. The cases responded promptly to doses of quinine. The commission said that among cases of recognized typhoid, few had any intestinal disorder prior to contracting typhoid. They conclude that having an intestinal upset possibly protected men from getting typhoid at least temporarily, and theorize that those reporting intestinal problems may have had some typhoidal infection. They considered the timing of diseases and suggested that if a man had an intestinal problem while typhoid was widespread, he had a better chance of not getting typhoid. They thought that diarrhea flushed typhoid bacilli out of the system.[52]

Captain Haubold was the assistant surgeon and offered a brief comment to the commission. He thought that typhoid was spread at Chickamauga by infected soldiers and the chief means of distribution was drinking water. The regiment had departed by the time the Typhoid Commission made its studies. The commission spoke with Major Guy L.

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[52] **Ibid., 204-207**.

Edie who had acted for a time as the sanitary inspector for the First Division. Major Edie had inspected the 8th New York on August 8. He found that the sinks for both kitchen and latrine use were shallow and that neither dirt nor lime had been thrown onto the contents. Major Edie said that men were seen defecating in the woods, and that all of the sinks were in a miserable condition. He said that it would have been desirable to move the camps into open fields, but he was told that the fields had been leased, and a permit would be needed in order to place troops on them. Lime was procured and Edie told regimental and brigade surgeons to ensure that contents of sinks were covered with lime regularly. Edie also got wood for flooring hospital tents and additional tents, as some of the sick were under tent flies (canvas sheets overhead, but without walls). He said that orders should be issued to require all drinking water be boiled, and this was done. He felt the order was not enforced. Edie observed men drinking from the hydrants and filling their canteens from them. The 8th New York drank from a well driven at their camp, while other regiments hauled their water from springs outside the camp. Edie also noted that hucksters drove through the camp and milk they sold was of dubious quality. The hucksters were later prohibited. Officers were told to have fruit and melons inspected to be sure they were not spoiled. The commission asked Edie for his ideas about the source of typhoid and how it was spread. He responded that he thought the piped water supply was infected and food was infected by the flies. He said that the cooks at the division hospital showed him that when lime was used to cover waster, they could see flies alighting on food with their feet covered in lime. Edie said typhoid seemed to increase after heavy rains.[53]

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[53] **Ibid., 206-207**.

The commission also drew on the report of Major Woodhull to the surgeon-general. Woodhull inspected the First Division Hospital and noted the office commanding had just taken command and so would not be responsible for any defects. The tents were too crowded with patients, and placed too close to one another and the sinks were also bad. The hospital staff complained of serious lack of medications. Woodhull said the kitchen was neat and food appeared to be good, but he found two bad pieces of bacon infested with maggots.[54]

The commission noted that the 8th New York had a much greater number of cases than any other regiment in the division. Searching for a cause of infection other than the water, the commission was told that the camp of the 8th New York was especially filthy. They were unable to identify any other specific cause for the virulence of the disease in this regiment.[55]

The first regiment to be examined in the Second Division, Third Army Corps was the 1st Maine Volunteer Infantry. This unit arrived at Camp Thomas May 30 with 1,003 men.By its departure, the unit had grown in strength to 1,286 men. The regiment suffered 188 cases of typhoid, an attack rate of 14.62%. Of these cases, 45 men died, for a morbidity percentage of 23.94%, the highest in the division.[56]

The initial sick report for May was signed by Major Bradbury. There were only 12 men sick, with 5 of those having bronchitis. The June report represented the full month,

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[54] **Ibid., 207. Woodhull is noted as a Major in some sections of the report and as a Lieutenant Colonel in others**.

[55] **Ibid.**

[56] **Ibid., 250.**

and there were a total of 184 men sick. The largest number of cases were diagnosed as acute diarrhea, affecting 107 men. Enteritis was diagnosed for 3 men, and dysentery for 9 men. The June report was submitted by Captain O'Neill and he said the health of the command was excellent. He noted the most prevalent diseases were caused by changes in climate, diet and water, affecting the alimentary canal. The commission noted that the regiment did not report any cases of malaria during May and June. However, when Captain O'Neill submitted the July report, there were 229 men ill. Of these, 63 had acute diarrhea, 31 remittent malaria, 24 intermittent malaria, 23 had typhoid fever and 11 had dysentery. There were 14 cases of undetermined fever and the remaining 63 cases were other diseases.Captain O'Neill commented that the cause of the increased sick list was the unfavorable weather which existed from the time the unit moved into camp. He said wooden floors were placed in tents to keep the men off the ground, and water was boiled. He said there were many malarial cases, and he was giving every man in the regiment light doses of quinine twice a week. Despite his efforts, the August report listed 345 men sick. There were 110 men with acute diarrhea, 62 with remittent malaria and 55 with remittent malaria. In addition, there were 38 cases of typhoid, 12 of dysentery and 22 of undetermined fever. There were 46 cases of other diseases. [57]

The unit left Camp Thomas August 23. Dr. O'Neill submitted a final report for September. There were 283 men sick, with 115 cases of diarrhea, 54 cases of typhoid, 41 cases of intermittent malaria, 26 cases of remittent malaria, 5 of dysentery and 1 of enteritis. There were 41 cases of other diseases. O'Neill wrote that while at Camp Thomas,

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[57] **Ibid., 247.**

the health of the regiment grew steadily worse. O'Neill said that malaria, typhoid, dysentery and acute diarrhea were the prevailing ailments. He noted that since moving back to Maine, the malarial fevers were less, but typhoid continued to appear. There were no additional comments by the surgeons, and the Typhoid Commission did not append any remarks.[58]

The last infantry regiment examined in the Second Division, Third Army Corps is the 1st Mississippi Volunteer Infantry. It arrived on May 31 with 995 men, and later reached a total strength of 1,029 men. The regiment had 397 cases of typhoid fever, the largest number in the division, representing an attack rate of 38.58%. Of these cases, there were a total of 29 deaths. The 1st Mississippi had the third lowest morbidity rate in the division, 7.30%.[59]

There was no report for May, and the regimental surgeon Major R. L. Turner noted that the unit did not complete its organization until just before departure. In June, the sick report was signed by Captain Kittrell. The unit had 275 men sick and reported 22 cases of typhoid fever, 93 of remittent malaria, 36 of intermittent malaria and 36 of diarrhea, with 67 cases of other diseases. Captain Kittrell noted the prevalence of malarial fevers, measles, acute diarrhea and some cases of typhoid. He said the reason for the malaria was moving the unit from the low terrain of Mississippi to the higher altitudes of Camp Thomas. The prophylaxis for malaria was 3-5 grains of quinine daily and measles cases were quarantined. He said the source of the typhoid was undetermined. The measures taken for

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[58] **Ibid.**

[59] **Ibid., 263.**

typhoid prevention were first, moving the camp and second, completely changing the water supply. In July, the report is signed by assistant Surgeon Bauer. There are 780 men sick in a unit with a total of 1,074 assigned. Thus, only 294 men were unaffected by disease during that month. There were 234 cases of intermittent malaria, 66 cases of remittent malaria, 166 cases of diarrhea, 28 cases of typhoid, 4 of dysentery and 3 of undetermined fever. There were 279 men sick with other diseases. The August report had 759 men sick, with 32 cases of typhoid, 171 of remittent malaria, 172 of intermittent malaria, 187 of diarrhea, 10 of dysentery, 8 of undetermined fever, and 179 of other diseases. Dr. Bauer commented that the prevailing diseases were typhoid, malarial fever, diarrhea and jaundice. He said the causes were bad water and bad air, crowding of so many men in a small place without proper means of keeping everything clean. In September, the sick list was reduced. The regiment was moved out of Camp Thomas on September 8, and sent back to Mississippi. The September report showed 243 men sick of a total of 693. There were 67 cases of intermittent malaria, 31 cases of intermittent malaria, 34 cases of diarrhea, 4 of dysentery, 6 of typhoid fever, 56 of jaundice and 45 of other disease. The September report was submitted by Assistant Surgeon Francis M. Shepperd and he commented that the prevailing diseases were malarial fever and jaundice, probably caused by too many men crowded into Chickamauga Park. Dr. Shepperd said that the regiment was granted thirty days of furlough on account of sickness.[60]

The doctors of the 2d Mississippi submitted their comments to the commission. Major Turner said that he believed the water was contaminated in Chickamauga Creek

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[60] Ibid., 257-258.

and further noted that he thought flies spread the disease. He said that the sinks were not moved until he complained, and by that time they were filled with myriads of flies and maggots. On June 29, Major Turnet contracted typhoid and was ill for three months. Captain Beamer stated that the camp sites were downhill from the 3d Tennessee and the 52nd Iowa. He said that after the regiment moved into an open area, the sick rate decreased. He also felt flies were the cause of spreading disease. [61]

The Typhoid Commission commented that it was a common opinion among medical officers at Chickamauga that this regiment brought the typhoid infection to the park and it later spread to other commands. It is true the 2d Mississippi arrived with typhoid cases, but the majority of other regiments also arrived with typhoid cases. The commission stated that the surgeon in charge of this regiment recognized his typhoid cases and diagnosed them properly, thus giving his unit a reputation it may have merited, but was not unique. The commission noted that when it arrived at Camp Thomas on September 10, all of the regiments but two, the 2d Kentucky and the 9th New York had left the park. [62]

The commission interviewed Major James M. Jenne, who had served as chief surgeon of the division from July 16. Prior to that Jenne was assigned as medical inspector. Jenne provided information on the camp sites. He noted that the 1st Mississippi was in low ground, downstream from the camp area of the Second Brigade. The camp area was bordered on the south by the Alexandria road, and on the west a small stream and an open field. This restriction meant that the sinks of the 2d Mississippi could not be placed any

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[61] **Ibid., 263-264.**

[62] **Ibid., 264.**

further than 30 paces from their company kitchen and about the same distance from the tents of the adjacent Third Tennessee. The stream frequently overflowed and would have submerged sinks near it. Jenne observed that the regiments were quite crowded, all in the woods and the drainage form some passed through the sites of others. Jenne said that when he arrived in June, all regiments were using water from Chickamauga Creek. Later, they began to use water from first Crawfish Springs, and later Blue Springs. Attempts were made to boil water, but the quantity was not sufficient and Jenne said men daily took water from other sources. Hew said there was a shortage of drinking water due to a shortage of barrels to transport it. Men drank from piped water and wet-weather springs. These were not true springs, but rather locations where ground water had filtered through a hillside and then was leaking out at a lower point. An attempt to filter water for the division failed due to clogging or breakage of the filters. Jenne said that the ground was strewn with failed filters. [63]

Jenne stated his belief that the 2d Mississippi came to Camp Thomas with typhoid cases. He said that the creek running near this regiment was contaminated with their wastes, and noted that it flowed into Chickamauga Creek only a few feet below the intake for the general water supply piped to the regiments. Jenne felt this contamination affected all units in the division. When questioned about flies, Jenne agreed that flies were most of the major methods of spreading the disease. He noted that the nature of the soil made sinks take water through the sides in some cases, and in other cases hold all of the contents. If the sinks leaked, they filled with water and rapidly became unusable. If they did not leak, rains

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[63] **Ibid., 264-265.**

would cause them to overflow. Major Jenne commented that the camp of the 52nd Iowa was uphill from that of the 2d Mississippi and thus wastes flowed downhill. [64]

The commission cited the report made by Major Woodhull to the Surgeon-General in August. Woodhull visited the division hospital and noted that most, if not all of the regiments in the division maintained their own hospitals. He cited the 9th New York had 6 to 8 men in a local hospital out of 60 supposed to be sick in quarters. The division hospital was under the control of Major Bradbury of the 1st Maine. There were 250 patients in this hospital and 285 beds. There were 138 privates on duty in the hospital, and 45 of these had been detailed from regiments. There were 56 typhoid cases present. Woodhull commented that if all of the men in regimental hospitals who should have been in the hospital, it would have been overcrowded. At times men were on the ground, and medical officers had given up their own accommodations for them. Typhoid patients were sometimes returned to their regiments to make room in the hospital. The police and layout of the hospital were very good, but the typhoid ward was too crowded, and had formerly been more so, with beds touching each other.[65]

Colonel Hoff was the chief surgeon of the corps and he told the commission that typhoid fever was brought in at the very beginning with the troops. He noted the First Mississippi and the 1st and 2d Arkansas as having large sick lists. Hoff mentioned that on June 30, there was a sharp rise in sickness in the 1st Mississippi. He said that was because the entire regiment was vaccinated at that time and 100 men were added to the sick list

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[64] Ibid., 265.

[65] Ibid., 265-266.

from the vaccination. Hoff noted that the 1st Mississippi's sick curve declined, because men were sent home on sick furlough and dropped from the sick report. He also noted that the 8th New York had a doubtful record with sickness form the very beginning, Hoff said that contamination affected practically all of the water sources, not just Chickamauga Creek. He thought the contamination began around July 20. Cases increased about two to three weeks later. The First Division was slower in the spread of the disease than the Second Division. He thought that the Arkansas and Mississippi regiments increased the level of disease in the Second Division.

The Third United States Volunteer Cavalry is the last regiment to be examined. This unit was one of three so-called "cowboy regiments." It was commonly referred to as Grigsby's Cowboys. The regiment was assembled at different points in Idaho, Montana and North and South Dakota. It arrived in detachments from May 23 to May 30. The regimental strength at reporting was 1,003 men. It received few additional men and left with a strength of 1,013. The regiment had 270 cases of typhoid fever for an attack rate of 26.89%. There were a total of 16 deaths, for a morbidity rate of 4.81%.[66]

There was no report submitted for May, because the medical officer, Roy A. Wilson did not arrive until the end of the month. In June, the sick report was signed by Major Henry G. Fish. He commented that measles had been prevalent, but the number of cases was decreasing. There were a total of 250 men on the sick report. There were 139 cases of diarrhea, 2 of intermittent fever, 1 of malaria, 4 of colitis, 1 of dysentery, 2 of general debility, 1 of intestinal intoxication, 4 of intestinal fever, 1 of constipation and fever and 94

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[66] **Ibid., 270.**

of other diseases. In July, there were 428 men on the sick report. The diseases included 174 of diarrhea, 11 of typhoid fever, 27 of remittent malaria, 46 of malaria, 3 of intermittent malaria, 3 of dysentery, 1 intestinal disturbance, 1 intestinal fever, 1 intestinal intoxication and 161 other diseases. Wilson, the assistant surgeon commented that the prevalent diseases were typhoid and malaria, and were on the increase. In August, there were 284 cases of diarrhea, 226 of malaria, 71 of typhoid fever, 5 of gastritis, 1 enteritis, 5 indigestion and 127 other diseases. The total of 719 sick of a unit strength of 1,015 is notable, with only 296 men not affected by disease. Wilson made no comment in the August report. The September report covered only the first three days of the month.[67]

The Typhoid Commission noted that this unit apparently arrived without typhoid in its ranks. The first case of typhoid was June 15, but the records did not show when the man arrived. The commission noted a second point of interest. The two camp sites occupied by this regiment at Camp Thomas were both "notoriously filthy." The commission inspected the unit at its last site and noted that it was not possible to walk through the woods around the sinks without stepping in fecal matter and the sinks themselves were in a disgusting condition. The unit's medical officers did not make any comments. The commission felt the unit furnished a valuable history because of the late arrival of typhoid and also because of the conditions surrounding its sinks.[68]

In early August, Secretary Alger ordered General Breckinridge to send one division of the First Corps to Lexington, Kentucky and another to Knoxville, Tennessee. Later that

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[67] Ibid., 269-270.

[68] Ibid., 270.

month, Alger ordered the Third Corps transferred from Camp Thomas to Anniston, Alabama. By September 14, all of the units had been moved out of Camp Thomas. [69]

The regiments sampled give a picture of the typhoid outbreak in medical terms. They are diverse in the type and depth of information and this is good, because the Typhoid Commission had to work with the information it could locate. They are also varied in their disease experience, with regiments like the 12th Massachusetts having less trouble and those like the 1st Mississippi being almost decimated by the experience. Given the level of detail available, it would have been possible to select only those regiments with the best, or the worst experience. But the sample was intended to be truly representative, so regiments have a range of experience. It would also have been possible to focus on individual states, or geographic regions, but again this would have not been representative.

The examinations reveal that regiments commonly suffered much diarrhea and various intestinal upsets soon after arriving. Doctors usually characterized these as due to change of climate, diet and water. Later, more serious diseases occurred. Diagnoses of malaria and remittent and intermittent fevers were common. The monthly reports are revealing, and the doctors' comments show the change in disease experience over time. To my knowledge, no scholar has incorporated these reports and doctors' comments in studies of the war and disease.

This chapter addressed the voices of those who cared for the soldiers in camp and in the hospitals, and the investigators who examined what happened. The medical records

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[69] **Cosmas, *Army for Empire,* 271-272.**

of the units examined in more detail gave a picture of how typhoid fever spread. Yet in one sense, the chapter has isolated the soldiers and their units. The next chapter will remove that isolation by reviewing the responses of newspapers to the disease and viewing the government's responses to the complaints raised by the soldiers, their families and politicians. The voices of soldiers will be heard in newspaper stories, regimental histories and govenrment reports. Officers, medical personnel, concerned civilians and family members' voices will also be heard. The statistics presented in the next chapter will be reinforced by the words of those who served at Camp Thomas.

Chapter 5 - Army Management and Newspaper Coverage

"It is folly to raise a single company, squadron or battery before it is known exactly what place it is to take in some definite organizations authorized for some definite purpose."

Sir Ian Hamilton, *The Soul and Body of an Army,* iv., 1921.[1]

"Four hostile newspapers are more to be feared than a thousand bayonets."

Napoleon I, 1769-1821.[2]

Chapter 6 will focus on the voices of participants and the results of investigations. But before addressing them, this chapter considers two other themes. The first theme is the way in which the Army managed Camp Thomas. The establishment of a command structure was followed by a program of inspection of volunteer units. This initial inspection of volunteer units has not been discussed in any of the scholarly treatments of the war. The organization of medical care was established according to Civil War experience, and was the subject of much controversy. The role of the commanding general and his comments about medical care reflect the attitude of line officers. The second theme is newspaper coverage of the typhoid outbreak. Newspaper coverage from both southeastern and regional newspapers provides a chronology of events, marked by increasing press concern about the treatment of soldiers. This period in American history was marked by the rise of numerous regional and national newspapers, engaging in vigorous competition. The phrase "yellow journalism" was used to describe sensationalist

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[1]**Heinl**, ***Dictionary of Military and Naval Quotations***, **254**.

[2] **Ibid., 236.**

writing emphasizing news, often without basing stories on fact. The Southeastern press did not engage in the excesses of yellow journalism, but it did receive and reprint coverage from wire services and other newspapers. Southeastern newspapers responded quickly to commentary in the New York press hinting that the South might be unhealthy. Press coverage from other portions of the country was less circumspect. Newspaper stories often repeated camp rumors about health and the possible movement of troops [3]

The Army established a command structure for Camp Thomas. On May 7, 1898, the Army constituted seven corps and on May 16, the President assigned Major General John R. Brooke to command of the First Army Corps and the Department of the Gulf, with headquarters at Camp Thomas. Major General James F. Wade was assigned to command of the Third Army Corps, also at Camp Thomas.[4]

General Brooke was a Civil War veteran. Serving as a brigade commander, he was wounded at Gettysburg. After recuperating, he served in U.S. Grant's overland campaign. He was promoted to Brigadier General on May 12, 1864 and was wounded again at the battle of Cold Harbor in June 1864. He was given the brevet rank of Major General near the end of the war. He sought and gained a Regular Army commission after the war and at the permanent rank of Lieutenant Colonel, served in the 37th Infantry. In 1879, he was

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[3] **Donald H. Dyal**, ***Historical Dictionary of the Spanish-American War***, **264-165. The term was coined by Ervin Wardman of the *New York Press* and referred to the type of journalism practiced by William Randolph Hearst's *New York Journal* and Joseph Pulitzer's *New York World.***

[4] **DCR 1:256-257. The actions were directed by General Orders 36 and 45, issued by the Adjutant General's Office.**

promoted to Colonel, and in 1889, Brigadier General. He was promoted to the rank of Major General in 1897.[5]

On May 17, Major General J. C. Breckinridge, Inspector General of the Army, was directed by General Miles to proceed to all of the camps of assembly and inspect the camps and troops at each location. Like Brooke, Breckinridge had served in the Civil War. He was appointed a Major General of Volunteers, and after the end of the war, promoted to Major General in the Regular Army. Before receiving this assignment, Breckinridge had spoken with General Miles who told him he wanted inspection of the condition of each organization, the fitness, instruction and readiness of its officers, both mental and physical for the upcoming campaign. He wanted Breckinridge not only to test drill book knowledge, **but also resourcefulness and endurance in handling forces in the field. In addition, units were to be evaluated in execution of attack and defense, security and marching. The inspection was to be oriented to preparation for a campaign and intended to evaluate the suitability of individuals to perform tasks demanded of them. Breckinridge said that the items he discussed with Miles were superseded by the prospect of an expedition and changes of station of troops.** [6]

The Inspector General was authorized to call on inspectors general, both existing and acting, and other officers at each location for assistance in accomplishing the inspection. Upon completion of the inspections, General Breckinridge was to return to Washington and report the results. Breckinridge requested General Brooke to direct any

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[5] **http://www.arlingtoncemetery.net/brookebio.htm (accessed June 17,2007); http://www.53edpvi.us/history/brookbio.htm (accessed June 17,2007.)**

[6] **Ibid., I:270; http://www.nndb.com/people/000050407 (accessed June 17, 2007.)**

inspectors general to report to him. He noted that the difference between a regular and an improvised command required modification of normal inspection methods. There would be a review of the soldiers on a parade field followed by an inspection in ranks. Once this was concluded, each regiment's camps would be inspected. Each inspector was to report areas where immediate action was needed by telegraph to the appropriate Washington authorities, and to render a summary report for each unit on completion of his inspection. The objective was to improve the quality and condition of the officers, men and equipment and organizations for effective work in battle and campaign. Later instructions stressed viewing training in progress and identifying common problems. Recognizing the turbulent nature of the mobilization, the instructions also directed the inspectors to correct irregularities on the spot and give lists of defects noted for immediate action directly to corps and division commanders. The inspection lasted from May 21 to June 3. On June 3, General Breckinridge was summoned to Tampa, Florida to join the expedition to Cuba. His final inspection report was submitted on June 20 from the transport *Seguranca*. He noted that he did not inspect the First Division of the Third Army Corps, and the accompanying reports do not include any statistics on that division.[7]

The report included copies of documents, including periodic reports, summaries of battle exercises, defects, lists containing the number of troops, the experience level of officers and enlisted men and observations during the Cuban expedition. General Breckinridge commented on the lack of inspectors general in the volunteer units. He noted a lack of training with weapons. His inspectors mentioned a lack of medical supplies. The

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[7] **DCR 1:270-271, 282.**

regimental surgeon of the First New Hampshire reported that his requests for medical supplies had been denied, while other regiments, like the Second Missouri, had received such supplies. He said the regiment had between 150 and 300 men at sick call, with many cases of "bloody dysentery."[8]

The report submitted by General Breckinridge included correspondence he sent to both Commanding General Nelson Miles and to Secretary of War Russell Alger. Breckinridge dealt with major issues like training and readiness. On May 24, he telegraphed Miles noting that many regiments came without medical supplies, and the division field hospital had inadequate tentage. Some cases were being sent to civilian hospitals in Chattanooga. The Inspector General observed that cases in the division hospital included appendicitis, measles, pneumonia and typhoid fever. Consumable supplies like dressings were being purchased locally. A telling comment was that the medical corps needed adequate personnel and larger organization. He suggested both enlistment of more men in the Regular Army Hospital Corps and the reestablishment of National Guard regimental hospital corps. Breckinridge observed that the Guard hospital corps had not been mustered in. He stated that more Regular Army medical officers were needed. Dr. John Van R. Hoff had just arrived and other medical personnel were expected. He said that great energy was being expended by the medical department, and commented that some items requiring immediate action were receiving it. The report

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[8] **DCR 1: 274-275, 282-284, 291.**

highlighted the turbulent nature of the mobilization, and some of the flaws resulting from it. [9]

General Breckinridge's report was sent to Washington on June 20. It provided the leaders of the Army considerable detail about the status of the mobilized volunteers. The information was shared with the commanders at Camp Thomas. Even though one division of the Third Army Corps was not inspected, the material supplied and areas of concern were sufficient to have generated some response from the staff in Washington, D.C. It is significant that histories of the war seem to make no mention of Breckinridge's inspection. His reassignment to a field position terminated his role as Inspector General, but he later served as Commanding General of Camp Thomas.[10]

The other major element of Army management was the organization and operation of the Medical Department. One scholar has commented that the Medical Department "failed miserably" during the first months of the war. It began the war with supplies and equipment sufficient for the Army authorized by Congress. The tenfold expansion caused the organization to place contracts for the supply of medical material. Priority for all types of supply was given to the invasion forces headed for Cuba. This meant that mobilization camps like Camp Thomas had a lower priority. In addition to supplies, the department was also short of trained and experienced personnel. On May 12, Congress authorized the hiring of an unlimited

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[9] DCR 1:270-311.

[10] Ibid., 270-271.

number of contract surgeons. Both civilian doctors and volunteer surgeons were appointed under this legislation. Often, the political connections of volunteer officers were more significant than their medical qualifications. Little review of professional skill was done. Even skilled civilian doctors had no idea of how the Army system of supply and medical administration operated. Regular medical officers were placed in ranking positions in hospitals and camps, and tried to train their civilian counterparts. [11]

General Sternberg also employed large numbers of female nurses for the first time in the history of the Army. Despite initial resistance by doctors, the professional training and skill of these nurses made them invaluable. He testified to the Dodge Commission that he did not assign female nurses to division hospitals because they were supposed to travel with the troops to the front. A scholarly article noted that although the value of female nurses had been proven in civilian hospitals for at least two decades before the Spanish-American War, there were still medical and military men who did not feel that a field hospital was a place appropriate for a woman. Nevertheless, General Sternberg stated that he did not hear of any resistance to the use of female nurses. [12]

A more significant issue was the organization of the hospital system. The Medical Department began to consolidate regimental hospital staff into division

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[11] **Cosmas, *Army for Empire,* 247-248. Cosmas drew upon Volumes 1-7, DCR for this information.**

[12] **DCR, 6:2826-2827; Mercedes Graf,"Band of Angels: Sister Nurses in the Spanish-American War," pt. 1, *Prologue* 34, No. 3 (Fall 2002), 1-2.**

hospitals, as it had done in the Civil War. But the efforts in mobilization camps were resisted by volunteer regiment commanders and their surgeons. The hospitals were short of supplies and equipment, lacked medical support personnel to keep records and requisition supplies, and had little or no capability to train willing, but inexperienced personnel. They were the organizations that would treat the sick in Camp Thomas and the other mobilization camps, but they were in a chaotic state. [13]

General Sternberg delegated operations to his subordinates. He issued a detailed memorandum on sanitation at the beginning of the war. It outlined the methods of handling human wastes and called attention to the role probably played by flies in the spread of disease. However, Sternberg did not take any action personally to go into the field and see what the problems were. He was a researcher by nature, with recognized scientific achievements. He had served as an Army doctor in the field and knew how to keep troops healthy. He sent inspectors into the field to check the camps, but it was reported that he did not see their reports. It must be noted here that both Sternberg and Secretary Alger were besieged at all hours of the night and day by applicants for positions, contractors and friends and families of military people. [14]

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[13] **Ibid., 249-250. DCR 1:971, 604-605.**

[14] **Ibid., 250. DCR 1:971.Colonel Charles R. Greenleaf, Assistant Surgeon General was appointed Chief Surgeon, Army in the Field on May 3, 1898. He accompanied General Miles in Cuba and Puerto Rico and so was not in the United States when the typhoid outbreak occurred. Gibson, *Soldier in White,* 205-206*;* Alger, *The Spanish-American War*, 29-32.**

The second theme in this chapter is newspaper coverage. The role played by the newspapers is important in understanding the outbreak. The way activities at the camps were reported shaped the views of the reading public. Both regional and southeastern press coverage of the outbreak are used as sources, continuing through the period before the investigations began. Press coverage began with articles chronicling daily life in camp. The longer soldiers remained in camp, the more critical press coverage became. When the typhoid outbreak became widespread, newspapers began demanding action. Reporting of many issues, including disease during the war led to calls for government investigations, and issues raised in the press were those examined by the Typhoid and Dodge Commissions.

Southeastern newspapers should be viewed both within the broader context of U.S. journalism and locally, as exponents of a unique set of values. Their coverage reflected popular demand for news of soldiers and their well-being, state and local pride in their volunteers and later, questions about why things were not handled better by the Army administration.

The character of news coverage, specifically whether "yellow journalism" was used or critiqued, reflects a difference between the sensationalist approach of some New York newspapers and those in other regions. Editorial commentary reflected

inter-and intra-regional rivalries and further illuminated the role of the press as "booster."[15]

The editors of southeastern newspapers actively critiqued "yellow journalism" and were careful to present themselves to their readers as offering news in a non-sensational manner. Southeastern journalists were sensitive to articles in the regional press criticizing their areas and labeled such stories as yellow journalism. Editors characterized the government investigations as "whitewash," with some beginning with this assumption, while others took it up as the investigations progressed.

During the period before the start of the Dodge Commission, Secretary Alger toured all of the military camps and press treatment of his visit was notable for its congratulatory tone. Newspapers often called for patience in dealing with the issues the investigation would later address. In each of the southeastern cities he visited, the press ran stories suggesting that permanent military installations should be placed in their cities, or in the case of Atlanta, that an additional installation be established. After Alger's visit, press criticism of reported inefficiency and health issues resumed. Commentary focused on the healthfulness of Tampa, Jacksonville and Chattanooga, with Chattanooga having the most frequent articles and editorials on this subject. Another recurring press subject was reporting of military paydays,

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[15]This term is used frequently in discussions of the period. The distinguishing characteristics were a preoccupation with circulation and the use of advertising as a tool to expand it, as well as a sensationalist approach to reporting. The "yellow press" would not hesitate to manufacture news to get a headline." See Richard Davis, The Press and American Politics: The New Mediator (New York and London: Longman Publishing Group, 1992). 71-73.

with the amount of cash to be disbursed to the soldiers. Such reports would interest the local merchants who advertised in the newspapers.

Press coverage in the southeast was focused on activities in the camps. Editorials often referred generically to "the South" and "the North" when commenting on issues. Coverage by the regional press is represented by a selection of articles from a variety of sources. Commentary from other regional newspapers is included where appropriate. Because of its unique relationship with Chattanooga, the New York *Times* coverage deserves closer examination. Coverage by three southeastern newspapers also merited greater attention based on these communities' level of involvement during the mobilization and deployment of troops. These newspapers represented locations where military camps were located (Tampa, Jacksonville and Chattanooga.)

Newspapers did not specify what news services they used, except when copyrighted stories from the Associated Press were quoted, and they did not identify correspondents. Thus, it is sometimes difficult to determine the sources of stories. The Tampa Morning Tribune stated on its masthead, "The Tribune is the Only Morning Paper Published in Tampa. Its Telegraphic Service is Superb and it Covers the Field Thoroughly." The types of stories make it likely that wire services rather than correspondents were used in many cases. However, the editorial page was a creation of the local editor, and it portrayed the views of the newspaper. In some cases, editors disagreed with published stories in other newspapers and present their views. Where the story portrayed supposed faults of their city, editors were quick to spring to its defense, mobilizing facts and statistics to support their point. When

representatives of the federal government visited the area, press coverage was cordial, and the populace was urged to make the visitors feel welcome. Laudatory items about the visitors often appeared, with biographical data, and summaries of the favorable comments made by the visitors.[16]

A wealthy woman showed her patriotic spirit in a unique way. Mrs. L.Z. Leiter of Washington and Chicago was contacted by Colonel Nicholas Senn. Senn was the Surgeon-General of the Illinois National Guard, who recognized the need for an additional hospital at Chickamauga and realized that normal procurement would take too much time. Senn received permission from Colonel Hartsuff to attempt to acquire the Chickamauga Park Hotel by donation, then contacted Mrs. Leiter and asked for her assistance. He received a reply from her husband that he could draw on him to purchase the hotel. Senn bought the hotel and it was donated to the government by the Leiter family for use as a hospital. Mrs. Leiter's husband had been the partner of Marshall Field and Potter Palmer in the Chicago retail firm bearing their names. It would later become known as Marshall Field and Company after the withdrawal of Palmer and Leiter's retirement. The New York *Times* reported her charitable gesture. The New York *Times* also quoted a dispatch from General Brooke setting at rest reports as to inadequate food and water supply at Camp Thomas. Brooke had received a telegram from Secretary Alger who noted press reports. Brooke said that there was no reason for complaint as to the quality

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[16] **Tampa *Morning Tribune*, April 2, 1898.**

and type of food, and that water question is being solved as to quantity. Brooke said the quality of water had always been good.[17]

The three regiments Alger had been permitted to form because of their "special qualifications"proved to be quite newsworthy. Teddy Roosevelt's Rough Riders, Torrey's Riders and Grigsby's Cowboys were the popular names for the First, Second and Third U.S. Volunteer Cavalry Regiments. The three regiments were sent to different camps, Roosevelt to Tampa and ultimately Cuba, Torrey to Panama Park in Jacksonville and Grigsby to Camp Thomas. The press enjoyed writing about the "cowboy regiments." The Charleston *Weekly News and Courier* told its readers about the arrival of two troops of Grigsby's Cowboys on June 1.[18]

Regional press coverage began with stories about how the volunteer soldiers were coping with camp life, reflecting public interest in the new volunteer army. Many of the stories focused on food, supplies and clothing. The theme was patriotic and optimistic; newspapers seemed to portray the volunteers favorably and make light of their privations as part of becoming soldiers. Stories about the prohibition of food vendors and limitations on alcohol hinted that poor food and drink might be causing illnesses. Rumors about troop movements were frequent. Southeastern

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[17] **Nicholas Senn, *Medico-Surgical Aspects of the Spanish-American War* (Chicago: American Medical Association Press, 1900), 41; "Marshall Field" *Memorial & Biographical Record -1899* , http://www.rootsweb.com/~neresour/OLLibrary/ mbrcd/pages/mbrd0051.htm (accessed July 31,2007); New York *Times*, June 1, 1898; Kaufman, *Dictionary of American Medical Biography*, 672-673.**

[18] **Westermeier, *Who Rush to Glory*, 170,185, 201;Charleston *Weekly News and Courier* , June 1, 1898.**

newspapers were quick to point out instances of yellow journalism by northern publications.

The *Arkansas Gazette* reported that despite stories in the New York papers, Arkansas boys had plenty of good, wholesome food and were not lacking in other comforts. The *Gazette* stated that the New York articles had created general distrust by reporting that soldiers were starving.[19]

The Macon *Telegraph* reported on June 10 that the general impression was that the departure of the troops would be delayed. This type of report would be common as rumors of troop movements continued. Stories speculated about what units would go to Cuba and Puerto Rico. Northeaster papers also followed the rumors. The Bangor *Daily Whig and Courier* stated that the 1st Maine might go to Puerto Rico, and noted that there was little sickness in Camp Thomas despite yellow journal rumors. The Maine soldiers enjoyed a rainy spell which cut down on the dust in camp.[20]

Another northeastern newspaper reported on problems and the use of political influence to control access to supplies. The Boston *Daily Advertiser* wrote that four New York regiments were short of food, clothing, shoes and ammunition. One officer explained that the men were wearing the state uniforms and pointed out that many units from other states had nothing. The article also discussed a disagreement between the chief of surgeons at Camp Alger, Colonel Girard and the Massachusetts regiments. Girard was taking

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[19] **Arkansas *Gazette*, June 15, 1898.**

[20] **Macon *Telegraph*, June 10, 1898; Bangor *Daily Whig and Courier*, June 17, 1898.**

hospital supplies for the division hospital from the regimental hospitals. A United States Representative complained and a compromise allowed some supplies to be retained in the regiments.[21]

The Macon *Telegraph* interviewed General Boynton, the superintendent of the National Battlefield about purported shortages of food. Boynton stated that he had reviewed the records of issue for the previous ten days and each regiment had received its full allowance of food in first class condition, with extra vegetables being provided. Boynton said the stories of soldiers without enough food had been deliberately manufactured by a few sensational newspapers in the east.[22]

Continuing the rumors of troop movement, on June 15 two newspapers reported that troops might soon be sent to the front. The *Arkansas Gazette* said fifteen regiments were to go, and the Milwaukee *Journal* ran a similar story. Both articles listed some of the regiments expected to go.[23]

On June 20, the Philadelphia *North American* reported that strict orders had been issued prohibiting the introduction of alcoholic beverages into Camp Thomas. The story noted that previously officers had been permitted to have such beverages delivered to them.[24]

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[21] **Boston *Daily Advertiser,* June 11, 1898.**

[22] **Macon *Telegraph,* June 13, 1898.**

[23] ***Arkansas Gazette*, June 15, 1898; Milwaukee *Journal*, June 15, 1898**.

[24] **Philadelphia *North American*, June 21, 1898.**

General Miles was the subject of a critical comment in the Denver *Daily Mining Record.* Citing an article in another Colorado newspaper, the Ouray *Herald,* the reporter said Miles had to stay in Washington because he was exhausted from his efforts while not dispatching troops and not getting their equipment on hand. The story suggested the writer might apply for Miles' position, as it was easier than the hard life of a country newspaper office.[25]

The possibility of movement arose again in late June, with a story on the 29th stating that twenty-seven regiments would go from Chickamauga, one on the 30th explaining that General Brooke would be succeeded in command by General Wade after Brooke left to lead his troops in the field, and an editorial on July 1 lamenting the fact that troops in Cuba were fighting the Spanish in equal numbers while thousands of men were ready to go from Chickamauga. On July 2, it was reported that General Brooke had received orders to move. The article noted that Brooke planned to take the First Division, First Army Corps and two Brigades from the Second Division. [26]

In addition to the continuing rumors about troop movement, newspapers also followed conditions at Camp Thomas. In some cases, stories of suffering were found to be false, but the coverage also discussed issues like the water supply.

Press stories stated that troops from New York were undergoing privations at Camp Thomas. Rev. Madison Peters, Chaplain of the 9th Regiment was cited as the source

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[25] **Denver *Daily Mining Record,* June 25, 1898.**

[26] **Macon *Telegraph,* June 29, 1898; Bismarck *Daily Tribune*, Macon *Telegraph,* June 30, 1898; Salt Lake *Semi-Weekly Tribune*, July 1, 1898, *Morning Oregonian,* July 2, 1898.**

of some of these stories. Governor Frank S. Black of New York sent General Howard Carroll to visit the camp and determine if the rumors were true. Carroll reported that the rumors were false after a three-week trip to Camp Alger in Virginia, followed by Tampa and Chickamauga. [27]

On a positive note, the *Medical News* carried a story on the advantages of Camp Thomas. It discussed the area and military training. The author was Major Woodbury, the Acting Chief Surgeon of the First Division, First Army Corps. He said the prevailing disorders had been enteric, caused by incorrect preparation of food, exposure to cold after the evening meal and snacks from home. He noted that officers were unfamiliar with the construction of sinks and latrines. Woodbury had a design for a field latrine he hoped would soon be adopted.[28]

On July 5, the Milwaukee *Sentinel* reported the death of a Wisconsin soldier from typhoid fever. The article said that he had suffered an attack of fever, but that it was believed the crisis had passed. The soldier had been a member of the 2d Wisconsin Volunteer Infantry.[29]

General Boynton announced that the well digging equipment at Camp Thomas would be used to sink artesian wells in each of the regimental camps not having such wells.

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[27] **New York *Times,* July 2, 1898.**

[28] ***Medical News,* July 2, 1898.**

[29] **Milwaukee *Sentinel,* July 5, 1898.**

This project would supplement the water supply being delivered to the camps by pipeline. Chief Surgeon Hartsuff stated that the health of the army was excellent.[30]

A private in the 2d Arkansas sent his diary entries to the Arkansas *Democrat*. He noted that he had spent seventeen days in the hospital, and hinted he had received no medication. He mentioned the frequency of rumors, with his regiment being reported in Cuba, Puerto Rico, Manila and Charleston, but actually remaining in Camp Thomas all the time. He said there was not much sickness in the camp, commenting on two of his comrades, one in the division hospital and the other in the Leiter Hospital. He stated that General Fred Grant had recently addressed his regiment's officers and noncommissioned officers on the best methods of maintaining the health of the men while in the field.[31]

The heat in Chickamauga made water the subject of many stories, A change in the source of water supplied to the camp was reported by the Bangor *Daily Whig and Courier*. Water would no longer be obtained from Crawfish Springs, but now would be drawn from Blue Springs. The article portrayed the action as part of a move by local landowners to force the Army to condemn the Camp Thomas reservation. It hinted that the owners of Blue Springs were also considering a protest and might cut off the supply of water from their site as well. The *Daily Whig and Courier* stated that the rumor was an indication of the desperate straits of the rivals of Chattanooga. These rivals wanted to force the

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[30] **Raleigh *News and Observer*, July 12, 1898.**

[31] **Arkansas *Democrat*, July 13, 1898.**

government to adopt other sites instead of Camp Thomas. The article concluded that the government was unlikely to give in to these protests.[32]

A change in the tone of press coverage occurred in mid- July. More critical stories began to appear now that soldiers had been at Camp Thomas for a while. The New York *Times* printed the first in a series of editorials suggesting that President McKinley should replace Alger as Secretary of War. The approach was subtle, comparing the French and the Prussians before the Franco-Prussian War. The editorial said that Napoleon III had corrupted the French Army by favoritism, and suggested that McKinley had done the same with his appointment of Alger. It referred to Alger as a spoilsman and cited "the paralysing influence of politics interfering as every stage with the vital work in hand."[33]

Coverage of medical issues was still favorable. The Philadelphia *North American* reported that there were about 200 men in the hospital of the Second Division, Third Army Corps, with 25 cases of measles. It commented that the hospital had recently added a reception area for incoming cases, where the patients were washed, given clean clothing and then assigned to a ward. A new surgical ward had also been established. The article observed that the Hospital of the Third Division, First Army Corps was filled to capacity, with about 30 cases of suspected typhoid fever from the 9th Pennsylvania. Major Weaver, the regimental surgeon believed they were typhoid, but other doctors disagreed. The Widal test was proposed to make a positive determination, and the article offered a brief

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[32] **Bangor *Daily Whig and Courier*, July 18,1898.**

[33] **New York *Times*, July 12, 1898.**

description of the test. Two points are noteworthy in this article; first, the presence of typhoid is suspected and second, the use of the Widal test is proposed. [34]

Not everyone was convinced of the presence of disease. In a letter quoted by the Milwaukee *Journal,* Major Otto H. Falk stated those rumors of disease and poor sanitation at Camp Thomas are false. The sick rate, according to Falk, was always below 5 percent, and typically ranged between 2.7 and 4.09 percent. Falk said this was below the typical sick rate at a U.S. Army post. Falk said the typhoid sick rate was less than the average of the healthiest cities in the country. Major Falk commented that each company was now supplied with a double set of filters and the doctors feel the use of these would stamp out the fever entirely. Falk also noted jubilation in the camp at the fall of Santiago de Cuba.[35]

A story about the proposed move of some regiments to cooler climates focused on the camps in Fernandina, Florida and Camp Alger, Virginia. Buried in the middle of this article was the statement that Major General Wade would reorganize Camp Thomas after the departure of General Brooke and his troops. It stated that a strict sanitary inspection would be made of the grounds and certain regiments relocated to reduce the prevalence of typhoid fever. The next day, the *Times* noted that a number of typhoid patients had been moved from the Leiter Hospital and sent to McPherson Barracks Hospital in Atlanta [36]

Some newspapers attributed the rising numbers of fever patients to rainy weather. The Denver *Evening Post* reported that a soldier in the 1st Missouri volunteer regiment was

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[34] **Philadelphia *North American*, July 19, 1898.**

[35] **Milwaukee *Journal*, July 19, 1898.**

[36] **New York *Times*, July 23, 1898, July 24, 1898.**

delirious with fever during the night, left his tent and ran into the rain. He ran through **the encampment of the Second Nebraska and attempted to jab a knife into his own throat. He later entered the tent of a soldier in his own regiment and pressed a revolver to the head of a former tent mate. He was intercepted before reaching his regimental commander's tent, was subdued and roped down to a cot. The article in the *Evening Post* noted a rise in the number of malaria cases and stated that ten typhoid fever cases had been sent from the division hospital to the Leiter hospital. It commented that General Wade, now in command after the departure of General Brooke was investigating conditions and might have camp locations changed.**[37]

Soldiers in the Mississippi regiments began to complain about the treatment of sick soldiers. An article in the New Orleans *Daily Picayune* stated that the Army did not treat sick soldiers properly. It noted that six ailing men left in one tent had no medicine of any kind. In the previous chapter, the disease statistics of the First Mississippi Volunteer Infantry reflected numerous illnesses, so there is probably a basis in fact for this report. It also reflects the increase in press reports of disease.[38]

Another trend begins to appear, the movement of troops out of Camp Thomas. After many rumors and false starts, the regiments assigned to the Puerto Rico expedition began to move out of Camp Thomas in late July. The Fifth Illinois had been named as one of the units to depart, but on the evening before it was supposed to leave, the orders were changed and it had to remain at Camp Thomas. The 160th Indiana was sent in its stead.

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[37] **Denver *Evening Post,* July 26, 1898.**

[38] **New Orleans *Daily Picayune,* July 27, 1898.**

The soldiers of the 5th Illinois were infuriated and blamed their regimental commander. The men said Colonel Culver had told President William McKinley the unit was not fit for field duty. Discipline was abandoned and scores of men left ranks, with hundreds going into the city without leave. One soldier was reported to have broken his rifle over a tree before leaving camp. The soldiers believed Colonel Culver wanted to get a contract to erect monuments on the battlefield and so kept the regiment from going. A follow-up story in the New York *Times* explained that the decision was as a result of pressure from the Indiana Congressional delegation, and Culver was not responsible for it.[39]

Another article described the departure of the 160th Indiana and went on to note that General Boynton had ordered an analysis of the water from all sources at Camp Thomas. The story noted that Boynton was confident the water supply was pure, but wanted the men to know what sort of water they were drinking. Boynton stated he was having the surface springs in the park filled with dirt to close them from use. The article also noted that the Third U.S. Volunteer Cavalry, "Grigsby's Cowboys" had completed their move into a new camp site on Brotherton field.[40]

A new Chief Surgeon was assigned to the hospital of the First Division, Third Corps on July 30. Major C.M. Drake planned changes to improve sanitary conditions. Tents were rearranged systematically, separating the typhoid and other contagious disease wards from the other wards. Streets were to be paved, gravel walks constructed and a thorough drainage system provided. As August began, Drake announced a campaign to improve

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[39] **Denver *Weekly Rocky Mountain News,* July 28,1898; New York *Times,* July 28,1898**.

[40] **Philadelphia *North American*, July 29, 1898.**

overall camp sanitation. Rigid regulations would be implemented on the disposal of garbage and refuse, as well as the preparation of food. All drinking water would be boiled forthwith. Board floors were to be provided for the tents. Drake reported on July 31 that the sick rate for the First Division was 1.9 percent.[41]

The character of newspaper reporting became more critical, with attacks on the officials in Washington and those in charge at Camp Thomas. The New York *Times* published a statement General Sternberg released concerning criticisms of the Army's medical administration. Speaking of the camps of assembly, Sternberg stated that it was almost impossible to keep typhoid out of such camps. He said he did not consider conditions in the camps alarming, but serious. He explained that he had not been asked to give his opinion of any of the chosen camps, but then said if he had been asked if Chickamauga was a fit place, he might have said it was. A brief note in the August 6 New York *Times* announced that the camp sites of several regiments were being moved, and the move was expected to improve the general health.[42]

Another editorial in the New York *Times* began by saying that when Alger took office in March 1897, he was a man of good standing in his party, and worthy of promotion to higher honors. The editorial continued, noting that if nominated today, he would not be able to be elected to any position. He was incapable of managing the department, indifferent to soldiers' suffering and introduced politics and favoritism into Army appointments and promotions. He was reported to favor certain contractors, even when

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[41] **New York *Times*, July 30,1898, July 31, 1898, August 7, 1898; Boston *Daily Advertiser*, August 8, 1898.**

[42] **New York *Times*, July 31,1898, August 6, 1898.**

soldiers could not get the articles the contractors were supposed to supply. The *Times* said that two weeks before McKinley's election, he had said Alger could never enter his Cabinet. The editorial concluded by asking why the President could not now dismiss Alger.[43]

A smaller newspaper also criticized Alger and provided specifics missing from the New York *Times* editorials. An article in the Arkansas *Democrat* was headlined "Park a Pest-Hole." It described the visit of J.M. Keller, Surgeon General of the Arkansas State Guard to the camp. He met with General Breckinridge, now in command, and visited the regimental camps and hospitals. The *Democrat* reported that the camp sites were clean and as well kept as their location could possibly permit. The 2d Arkansas had just moved into a new site a week before. The story noted that three doctors had been detached from the regiments, leaving only one doctor on hand in each. An additional doctor had arrived for the 2d Arkansas. Keller reported that men all sick more than twenty-four hours were transferred to the division hospital and described health statistics for each regiment. The 1st Arkansas had 567 cases in July and an additional 130 by the time of his visit on August 11. The 2d Arkansas had 670 cases in July, and an additional 119 by August 11. [44]

The *Democrat* said that Surgeon General Keller visited the division hospital (Second Division, Third Army Corps). It described the hospital as badly located in a damp grove. Keller was treated courteously by the doctors, but they told him the patients' clothing was damp in the morning from the dew. Men were crowded in tents, with some under tent flies

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[43] **Ibid., August 9, 1898.**

[44] **Arkansas *Democrat*, August 15, 1898, August 18, 1898.**

(tent material overhead, but no walls) and men remained for days in their uniforms, never having been undressed. Patients were fed the normal Army ration, and this was supplemented by items from the Red Cross and the National Relief Society. The article commented that there were men who would have died if it had not been for the efforts of the relief societies. Keller observed that the non-Army food was the only palatable food and was not sufficient. No milk or ice was supplied, and Keller observed that these two items were indispensable for fever patients. The regimental chaplain of the 1st Mississippi had tried to buy enough milk for the patients, but did not have funds to continue. The article continued, noting that the hospital corps men from the regiments had been assigned elsewhere and nursing was carried on by details of worthless men from the regiments, who neglected the patients. Physicians told Keller that they had sent in many requisitions for supplies, but their requests had been refused. He observed that General Sternberg's system of division hospitals might work if the necessary supplies were provided, but that the present situation made the hospital a "veritable death's hole." The Arkansas Surgeon General said that this was due to criminal neglect of somebody in the War Department. [45]

The article stated that Arkansas soldiers were better treated than others, because their officers and families sent items to them. Keller stated that if the people in New York and elsewhere in the northern states were aware of how their boys were being treated, a protest would be made and then the government would respond. He said people high in authority told him complaints from the south would be little heeded. Keller believed that communications he sent to Secretary Alger and Sternberg had not resulted in any

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[45] Ibid.

attention being given to problems. He recommended immediate removal of the regiments to some other location and indicated that General Breckinridge felt that this was needed by the entire force, and was making every effort to make this happen. Two days later, the newspaper noted that the article did not mean that the newspaper supported importation of typhoid fever to a new site. It assumed that diseased personnel would be left in the hospital, but said that if the soldiers with typhoid were brought back to the state Guard camp, they would probably heal there as quickly as anywhere else.[46]

In response to public and governmental pressure, the Adjutant General issued a statement on August 10, announcing that the large camps would be broken up. One division of the First Army Corps was to go to Knoxville, Tennessee, and another division of was to go to Lexington, Kentucky. Other units were ordered out of Tampa and Manassas, Virginia. One regiment was sent from Lexington to Jacksonville. On August 10, General Breckinridge wrote the President, asking him to visit his command of forty thousand men while it was still intact. McKinley replied that he wished he could make a personal visit but his duties would not permit him to visit Chickamauga Park. The President wrote that the highest tribute that could be paid was that he performed his full duty. He noted that the forty thousand troops of Breckinridge's command had been for upward of two full months preparing for any service and sacrifice the country might require. Wherever soldiers served was a place of honor, and all who served would be entitled to the nation's gratitude.[47]

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[46] **Ibid.**

[47] **New York *Times*, August 12, 1898.**

The governor of Vermont wrote to Secretary Alger asking him to allow the Vermont regiment to come north and camp in Vermont, where conditions were healthier.

The New York *Times* also reported the visit of Surgeon General Keller in a brief article entitled "Camp a Veritable Pest-hole." It cited the water conditions as bad, but ignored most of Keller's report. Yet another editorial in the *Times* again attacked Secretary Alger. The newspaper said there were two tasks to be accomplished regarding the War Department. The first was reorganization of the Regular Army, disposition of the volunteer force still required and the release of the rest. This task should include formation of a general staff to plan and coordinate operations of the Army and specifically plan for the development and assimilation of State forces. The second task could not involve favoritism. It included forming administrations for Cuba, Puerto Rico and the Philippines, initially by the military. If politics was allowed to interfere, there would be no end to the trouble, confusion and disgrace. McKinley should let Alger go.[48]

On August 16, a week after the editorial attacking Alger, the New York *Times* printed an article entitled "Awful Suffering at Camp Thomas." Captain William Morris of the 9th New York said that the camp was a modern Andersonville. The memory of horrible suffering by Union soldiers in the Andersonville prison was still vivid more than thirty years after the end of the Civil War. Morris was one of several officers who had resigned in the two weeks preceding the interview. Morris said that on the day before he left, one of his sergeants was going into the hospital and told Morris he would probably never see him again. The man had fought off attempts to send him to the hospital until he collapsed.

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[48] **Ibid., August 13, 1898, August 15, 1898, August 16, 1898.**

Morris said he went to the hospital with Colonel Greene, the regimental commander, and saw one of his men ill of typhoid fever with his face covered in flies including his open mouth. Morris was told by an orderly that there were not enough people there to take care of everyone. He sent one of his men to nurse the soldier and the man had difficulty getting water to lower the man's temperature. The sick man died a few days later. Morris said in another case, a dying man's armpits were filled with hundreds of maggots. He said with 280 men in the hospital. There were only two thermometers to take temperatures. The officers bought ice for their men, but they could not afford enough to make a difference. Morris blamed Colonel Green for the resignations of the officers, and said he had destroyed the regiment's *esprit de corps*. Greene had brought his own favorites into the regiment and promoted them over sergeants who had served for many years.[49]

After the visit of the Arkansas Surgeon General, the Arkansas *Democrat* printed an article noting that the Chattanooga *Times* was trying to prove that Camp Thomas was healthy, so that the city would continue to enjoy the benefits of a large military population and payroll. The *Times* was quoted as saying that the water intake for the pipeline was not polluted above the intake, as reported by the Arkansas Surgeon General. The *Times* referred to two earlier tests and a just completed third test proving the water was pure. The Chattanooga newspaper also asked: If disease was widespread, how could forty-three thousand of forty-six thousand men have turned out for a review? The *Times* article said the sick were from a few regiments which have neglected sanitary requirements. The Arkansas *Democrat* ended its article with a quote from an Arkansas officer, Captain John

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[49] **New York *Times*, August 16, 1898.**

R. Newman, who had just returned from Camp Thomas. Newman said Camp Thomas was disease infected and the water unfit for use. The water caused disease and the men must be moved, to either another site, or mustered out of the service. It would be cruel to keep the men at Camp Thomas. Newman said that Surgeon General Keller's report was absolutely true. [50]

The New York *Times* printed a story reviewing the main points of the Chattanooga *Times* article. It was the only occasion between June and August that the New York newspaper printed anything written about Camp Thomas by the Chattanooga publication. The Chattanooga article stated that fever was due to sanitary neglect and not an unwholesome site. It found evidence of inadequate hospital services and disregard of health rules and said the water was excellent. The Chattanooga *Times* referred to an article quoting a captain in Grigsby's Cowboys. The man stated that 20 per cent of his regiment was down with typhoid or malarial fever. It commented on the failure of regimental commanders to enforce sanitation rules, The Chattanooga publication noted that regimental medical officers had been pulled away to establish division hospitals and an ambulance corps. This reduced the number of doctors available to give immediate care at the regimental level. The *Times* said that General Breckinridge had taken hold of the situation vigorously since taking command. The Second Division hospital was dangerously overcrowded, and the sick did not receive proper care. Cots that had been ordered were lost in transit and a number of sick men had to lie on the ground. The sick men had little energy and could not even brush away the flies; there were few nurses to give care. Only

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[50] **Arkansas *Democrat*, August 19, 1898.**

one-half of the patients were in tents, with most of the rest covered by tent flies (A roof but no walls.). New tents had just been delivered and they would provide accommodations for 400 men. One officer said they did not get enough supplies. The unnamed officer said that mortality in the hospital was small, comparable to what might be seen in private practice, about twelve deaths. The men were not so very uncomfortable, although the hospital looked worse than it was. He said the water was not the source of the sickness; it is delightful and healthful.[51]

The *Gate City* newspaper of Keokuk, Iowa received a report from Dr. C.E. Ruth at the end of August. The Arkansas *Democrat* reprinted the article on August 29. The headline read "Man's Inhumanity Review of the Terrible Health Conditions Prevailing in Hospitals at Camp Thomas, Where Lies the Blame." The article is extremely long and described Dr. Ruth's service in the Second Division, Third Corps Hospital from July 1 to July 31. It repeated many of the statements made in other articles. He noted that the hospital had a capacity of 100 patients and there were 300 patients there at the time he arrived. Dr. Ruth initially was placed in charge of the typhoid ward, and found that the normal equipment for prescribing drugs, recording dosages, dispensing and storing medications were not on hand, and had never been. The Red Cross was providing all of the linens, night shirts, ice, milk, broth, eggs and 75% of the medicine. Ruth commented that without the Red Cross, the mortality rate would have doubled. He cited one case of a man

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[51] **New York *Times*, August 18, 1898.**

who was unconscious, covered in flies and infested with maggots. An orderly who worked for half a day to clean this patient later was admitted as a patient.[52]

He said that despite his eighteen years of experience he soon became both sickened and exhausted. He was then assigned to the measles ward. No water was available to wash bed pans, so he procured a barrel and had them cleaned. Ruth inspected the sinks (toilets) and found them fouled. He had them cleaned and disinfected. He noted this type of cleaning should be routine in hospitals and for field latrines. Ruth found from speaking with regimental surgeons that many men were being cared for in the regiments instead of in the hospital because men felt they would not have gotten proper care in the hospital. [53]

Ruth noted that the filtering system used for the hospital clogged within thirty minutes of use. He said that the value of female nurses became obvious when one observed the ignorant, filthy men assigned by regiments to perform nursing duties. He said patients refused to help each other, even to get a drink or brush away flies. This comment was the source of the headline "Man's Inhumanity." Doctors could not perform their duties effectively because of the time they spent in managing nursing activities, ordering supplies and giving direction to three shifts of orderlies. Ruth said that large details had been promised from the regiments in August, but that the disease rate was also increasing. He closed by asking who was responsible and how could the problems have been avoided. Ruth's resignation was effective July 31 and he left Camp Thomas August 1.[54]

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[52] **Arkansas *Democrat*, August 29, 1898.**

[53] **Ibid**.

[54] **Ibid.**

The New York *Times* reported improvements in the hospital facilities at Camp Thomas. The Second Division, First Army Corps hospital got new tentage, cots, flooring, and lumber to greatly relieve crowding. The article credited General Breckinridge for the improvements. The hospital of the Third Division, Second Corps was still overcrowded but patients would soon be moved. A new hospital was opened at Camp Thomas on August 16. It was named after Surgeon General Sternberg, and had capacity of 1,200 beds. It was to have Red Cross nurses, and scores of men would be moved into this facility from the overcrowded division hospitals.[55]

On August 16, Adjutant General Corbin announced that orders had been prepared for the mustering out of 50,000 volunteers. This number represented all of the volunteer cavalry and infantry units now in the United States and part of the artillery units. Further details would be forthcoming. The next day, members of the 52d Iowa Volunteer Infantry sent a telegraph message to the governor of Iowa asking him and the people of the state to rescue them from Chickamauga. They stated that their division hospital had a capacity of 100 and presently had 600 patients. Three hundred of these patients were from the 52d Iowa. The men claimed that sewer facilities were lacking, medical attendance was insufficient, water was unfit to drink and both typhoid and malaria were increasing. The appeal concluded that the men were willing to die, but not like dogs from indifference and negligence. On August 18, it was announced that the 1st Vermont would go home by train ,as would the men of the Pennsylvania regiments.[56]

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[55] **New York *Times*, August 15, 1898, Arkansas *Democrat*., August 16, 1898**.

[56] **New York *Times*, August 16, 1898**, **August 18, 1898.**

Complaints had been made and articles in the press complained about the condition of Camp Thomas and the quality of medical care. General conditions demanded an investigation of the way the War Department had managed the war. The issue of disease and medical care was broad reaching, but sufficiently technical to require examination by a team of experts.

Chapter 6 -The Investigations and Testimony

"The Commander is responsible for everything his unit does or fails to do."

Army Maxim.[1]

This chapter focuses on the voices of participants and the results of investigations. These voices and the records of the investigations represent what people said and what officials and participants told the public. Two major commissions captured contemporary responses from several different groups of people. The Typhoid Board, chaired by Major Walter Reed, accumulated information on the health of soldiers and the spread of typhoid fever. Their comments on the reasons for the outbreak and their conclusions are significant in understanding the rise of disease in the camps and the underlying causes. By the time the Typhoid Board was established, the units assigned to Camp Thomas had been sent to other, smaller camps, so studies of these units were made from medical records. The board came to some key conclusions about typhoid fever, in some cases changing their own previously held opinions. The Dodge Commission, which was created in response to public criticism of the War Department's activities during the war, had a broader scope. It examined the role of the War Department during the war by taking testimony at sites across the country. The commission interviewed civilians, soldiers, officers and military and civilian doctors. The report of the Dodge Commission is invaluable because it gathered

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[1] **U.S. Army Field Manual 71-100, *Division Operations Chapter 3, "Role of the Commander and Staff"* (Washington, D.C.: Department of the Army, August 28, 1996), 1.**

testimony soon after the events, and drew upon participants from all levels, private soldiers to generals.

On August 17, 1898, Surgeon General George Sternberg wrote to Adjutant General Henry Corbin asking that a board of sanitary experts be formed. This board would investigate conditions in the mobilization camps that led to the prevalence of typhoid fever. Sternberg recommended that three medical officers be detailed to serve on the board. They were Major Walter Reed, Surgeon, U.S. Army, Major Victor C. Vaughan, Division Surgeon, U.S. Volunteers and Major Edward O. Shakespeare, Brigade Surgeon, U.S. Volunteers. It is notable that Sternberg assigned two volunteer officers to the board. He certainly was aware that appointing a board composed only of Regular Army medical officers might draw criticism. The Adjutant General immediately issued orders appointing these men to the board. The board was to call insanitary conditions to the attention of commanding officers and recommend actions to correct them. Their report was to be sent to the Surgeon General when completed.[2]

The three officers appointed were well qualified for the task before them. Reed was a graduate of the University of Virginia Medical School and had also received the M.D. degree from Bellevue Medical College in New York. He had worked as a sanitary inspector in New York and Brooklyn. He was commissioned in the Army Medical Corps in 1876 and assigned to various Army garrisons until 1890. He served as curator of the Army Medical Museum in 1890 and 1891, and subsequently from 1891 to 1893 as examiner of recruits in Baltimore. During this period he also studied at Johns Hopkins Medical School. In 1893, he

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[2] **Sternberg, *Sanitary Lessons of the War*, 20; Special Orders No. 194, paragraph 40, Adjutant General's Office, Department of War, also TCR 1:xv.**

was assigned to the newly formed Army Medical School's bacteriology and clinical microscopy faculty. Reed combined the field experience of an Army doctor with extensive medical and scientific background.[3]

Vaughan received the Ph.D. degree from the University of Michigan in 1876 and an M.D. from the same institution in 1888. He had studied bacteriology in Berlin under Robert Koch. He had a long career at the University of Michigan Medical School, first from 1875 to 1887 on the physical chemistry faculty, also serving from 1883 to 1887 on the therapeutics and materia medica faculty. From 1883 to 1895, he also served on the Michigan State Board of Health. In 1887, he became director of the hygienic laboratory of the Michigan Medical School. He left that position to serve in the Spanish-American War.[4]

Vaughan had attended a meeting of the faculty and students at the University of Michigan after the sinking of the *Maine*, and made a passionate speech about serving the country in time of war. The next day the Governor of Michigan called him on the telephone and said he had signed Vaughan's commission and he was to report to Camp Alger, Virginia without delay. Vaughan stated he had gotten his commission because he talked too much. About four days after his arrival, his unit was sent to Cuba. He saw combat and contracted yellow fever. On his return, he was appointed to the Typhoid Commission. [5]

Edward O. Shakespeare received his M.D. in 1883 from the University of Pennsylvania. Like Vaughan, he went to Europe, in 1885 and 1891, studying bacteriology

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[3] **Martin Kaufman, Stuart Galishoff and Todd L. Savitt. *Dictionary of American Medical Biography*. 2 vols. (Westport, Conn.: Greenwood Press, 1984.), 628-629.**

[4] **Ibid., 762-763; Vaughan, *A Doctor's Memories*, 326-369**.

[5] **Ibid.**

in Germany and Switzerland. He had a medical practice in Philadelphia, specializing in ophthalmology and also served at Philadelphia Hospital on the pathology, bacteriology and hygiene staffs. He was named chair of the ophthalmic surgery faculty of the University of Pennsylvania in 1881. Shakespeare had frequently been asked to serve on medical committees. In 1881 he served on a medical committee examining the brain of the man who had assassinated President James Garfield. He had served on the committee examining the typhoid outbreak in Plymouth, Pennsylvania in 1885. That year, he also was the U.S. representative on a commission investigating cholera in Spain, and in 1888, served on a government committee investigating hog cholera. [6]

The doctors immediately went to Camp Alger, Virginia and spent six days. They saw a number of men infected with what they thought was typhoid fever, but the attending physicians insisted that it was malaria. When they returned to Washington, they requested the Surgeon General to assign doctors competent to look for the malarial plasmodium in blood and also make the Widal test for typhoid. The Surgeon General did so and the resulting tests proved that the prevailing disease in the camps was typhoid and that malaria was exceedingly rare. [7]

The next location visited by the board was Fernandina, Florida. On arriving there, the group found that the Fourth Army Corps in the process of moving to Huntsville, Alabama. They spent two days examining the camp sites in Florida and getting medical histories from regimental surgeons. They then moved to Jacksonville and examined the

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[6] Kaufman, Galishoff and Savitt. *Dictionary of American Medical Biography*, 675.

[7] TCR, 1:xv.

Seventh Army Corps. They began by examining the experience of citizens in the area with typhoid and studying the local water supply. The board interviewed one or more surgeons from each regiment, and then visited each regiment and all of the hospitals. They found that there was no epidemic of typhoid in the civilian population, while afflicted soldiers were drinking from the same water supply. They concluded that the epidemic was not due to infected water. This was an extremely important discovery, especially because press stories focused on polluted water as the suspected cause of disease.[8]

The board left Florida and went to Huntsville, Alabama, where the Fourth Corps was assembling. They gathered information from each of the regiments at this location. The doctors then went to Chickamauga. By the time they arrived, most of the volunteer regiments had left Camp Thomas. The board prepared its study using the monthly sick reports of regiments and divisions. The board's reports were given to the regimental medical officers and their comments were solicited. The board commented that they did not change any of the comments received from regimental doctors, even if the board disagreed with them. The group cited as an example the claim of one medical officer who said malaria was widespread because of the high altitude of Camp Thomas. The examiners did not agree with the claim, observing that their studies showed that there was little malaria at Chickamauga. Because the reports for Camp Thomas were based on documentary evidence rather than clinical studies, the board identified both probable and recognized cases of typhoid fever. At Camp Thomas, they visited and examined each regimental camp site and checked the water pipeline intake and each well and spring used by the troops. The board also examined each

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[8] **Ibid.**

of the three hospitals still in use. They noted the significant assistance of General Boynton and his extensive knowledge of Camp Thomas. [9]

The doctors went on to Knoxville, where they were able to examine the Fourth Tennessee, a regiment that had never been assigned to a larger encampment. One division had also been sent there from Camp Thomas. As they had in Jacksonville, the group examined the local water supply, and again found that citizens and soldiers were drinking from the same water supply. There was no typhoid among the citizens, but soldiers were suffering severely. The board decided that the division at Knoxville did not get its typhoid from the water supply.[10]

The board returned to Washington, and then went on to Camp Meade, Pennsylvania. At Camp Meade, the doctors decided to test the effect of disinfection of tentage, clothing and blankets. After the disinfection was carried out, the corps moved to a new camp and typhoid practically disappeared. The board noted that all sick were left behind and new cases were isolated.[11]

The field examinations lasted from August 20, 1898 to September 30, 1898. The board noted that it gave written reports to the commanding officers at each camp, and reproduced these documents in their final report. The group returned to Washington and began the task of reviewing sick reports. They arranged lists of the soldiers on the sick reports in alphabetical order and then associated each case with a recorded diagnosis and

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[9] Ibid.,xv-xvi.

[10] Ibid.,xvi.

[11] Ibid.

the disposition of the individual. If the case was referred to a division, general or civilian hospital, it was traced through the records of that hospital. The committee stated that it was not always possible to determine the final disposition of each case. In the great majority of cases, though the board was able to determine that the illness was a protracted fever. The board concluded that transient diarrhea did not predispose typhoid, but rather gave immunity to that disease. They stated this was one of the most important conclusions of their study. [12]

The work of the committee was carried out until June 1900. The examiners commented that they had to deal with a great mass of material, and noted that many records were incomplete. The study might have been incomplete if Major Shakespeare had not continued his efforts in collating and analyzing the results. He had been discharged from the Army on June 30, 1899, but continued to work on the report. The Army gave as its reason for his discharge that it did not have enough money to put into the investigation. Shakespeare studied the spread of the disease, proving that it was both a contagious and an infectious disease. He prepared detailed charts of camp sites tracing the spread of the disease from tent to tent. The board concluded that dissemination of typhoid fever in the camps was largely from person to person by contact and not by infected water or food. He died suddenly on June 1, 1900, the day before he was to meet with Reed and Vaughan to compare results and formulate the general conclusions.[13]

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[12] **Ibid., xvii.**

[13] **Ibid., xiii.**

Vaughan kept working on the report until January 31, 1900. Reed had been reassigned to Cuba to work on yellow fever, and achieved great success. In October 1902, Reed was admitted to the Army hospital at Washington Barracks with appendicitis. After the operation, he developed peritonitis and died on November 23, 1902. The Army published an abstract report of the study in 1900, with an introduction by Sternberg. The Surgeon General noted in his introduction that the main body of the report consisted of 2,600 typewritten pages, five maps and 93 charts, as well as many sketches of camp sites. He stated that the report was not practicable to publish in its complete form. [14]

In 1903, Congress passed legislation providing funds for the publication of the complete report. Dr. Vaughan prepared the material with the assistance of the chief clerk of the Army Medical Museum. Vaughan also called upon Dr. Christopher Childs, a noted English epidemiologist to review the manuscript and make suggestions. The final version was completed in late 1904. The introduction was signed by the Acting Surgeon General, C.L. Heizmann. Sternberg had retired on June 8, 1902.[15]

The final version of the Typhoid Commission Report listed a total of fifty-seven general conclusions. Reducing these to a more comprehensible form requires grouping of similar conclusions, and while their division into seven groups of recommendations is arbitrary, it seems to make sense.

The first group is what might be called "Attack Information." Conclusions one through seven and eleven discuss the level of disease suffered.

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[14] **TCR 1:iii, xiii-xiv, Truby**, ***Memoir of Walter Reed,*** **211-212**.

[15] **TCR, 1:iii, xiii-xiv; Gibson,** ***Soldier in White,*** **252-253.**

1) During the Spanish war of 1898, every regiment constituting the First, Second, Third, Fourth, Fifth and Seventh Army Corps developed typhoid fever.

2) More than 90 per cent of the volunteer regiments developed typhoid fever within eight weeks after going into camp.

3) Typhoid fever developed also in certain of the regular regiments within three (3) to five (5) weeks after going into camp.

4) Typhoid fever became epidemic both in the small encampments of not more than one regiment and in the larger ones consisting of one or more corps.

5) Typhoid fever became epidemic in camps located in the Northern, as well as those located in the Southern states.

6) Typhoid fever is so widely distributed in this country that one or more cases are likely to appear in any regiment within eight weeks after assembly.

7) Typhoid fever usually appears in military expeditions within eight weeks after assembly.

11) With typhoid fever as widely disseminated as it is in this country, the chances are that if a regiment of 1,300 men should be assembled in any section and kept in a camp the sanitary conditions of which were perfect, one or more cases of typhoid fever would develop.[16]

The next group is smaller. Conclusions eight through ten might be called the "Origin" group.

8) The miasmatic theory of the origin of typhoid fever is not supported by our

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[16] **TCR, 1:656-663.**

investigations.

9) The pythogenic theory of the origin of typhoid fever is not supported by our investigations.

10) Our investigations confirm the doctrine of the specific origins of typhoid fever. [17]

A larger array might well be titled the "Dissemination" group. Conclusions twelve to twenty-one discuss how the disease was disseminated.

12) Typhoid fever is disseminated by the transference of the excretions of an infected individual to the alimentary canals of others.

13) Typhoid fever is more likely to become epidemic in camps than in civil life because of the greater difficulty of disposing of the excretions from the human body.

14) A man infected with typhoid fever may scatter the infection in every latrine in a regiment before the disease is recognized in himself.

15) Camp pollution was the greatest sine committed by the troops in 1898.

16) Some commands were unwisely located.

17) In some instances the space allotted the regiments was inadequate.

18) Many commands were allowed to remain on one site too long.

19) Requests for change in location made by medical officers were not always granted.

20) Superior line officers can not be held blameless for the unsanitary

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[17] **Ibid.,662-663.**

condition of the camps.

21) Greater authority should be given medical officers in questions relating to the hygiene of camps.[18]

Another, smaller group dealt with disposal of wastes. The "Wastes" group was conclusions twenty-two to twenty-five.

22) It may be stated in a general way that the number of cases of typhoid fever in the different camps varied with the methods of disposing of the excretions.

23) The tub system of disposal of fecal matter as practiced in the Second Division of the Seventh Army Corps is to be condemned.

24) The regulation pit system is not a satisfactory method of disposing of fecal matter in permanent camps.

25) In permanent camps, where water carriage can not be secured, all fecal matter should be disinfected and then carried away from the camp.[19]

The largest group is conclusions twenty-six through forty. The "Carrier" group had two conclusions significant enough to require individual discussion.

26) Infected water was not an important factor in the spread of typhoid fever in the camps of 1898.

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[18] **Ibid., 663-664.**

[19] **Ibid.,1: 664-665.**

Given the news stories about bad water, pipelines and wells and attempts to boil and filter water, this conclusion seems to fly in the face of current knowledge. However, in both Jacksonville and Knoxville, civilians and soldiers were drinking from the same water supply. Soldiers were sick and the civilians were not.

28) Flies undoubtedly served as carriers of the infection.

This had been suspected but not proven. Victor Vaughan later stated in his memoir that the board found that the disease was less widespread among those who ate in screened tents. The board sprinkled lime over fecal matter and afterwards saw flies with the lime dust on their feet walking over food on the mess tables.[20]

27) To guard against the contamination of the water supply, troops in the field should be provided with means for the sterilization of water.

29) It is more than likely that men transported infected material on their persons or in their clothing and thus disseminated the disease.

30) Typhoid fever, as it developed in the regimental organizations, was characterized by a series of company epidemics, each one having more or less perfectly its own individual characteristics.

31) It is probable that the infection was disseminated to some extent through the air in the form of dust.

32) A command badly infected with typhoid fever does not lose the infection by simply changing location.

33) When a command badly infected with typhoid fever changes its location it

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[20] **TCR., 1:665-666.**, **Vaughan, *A Doctor's Memories*, 384-385.**

carries the specific agent of the disease in the bodies of the men, in their clothing, bedding and tentage.

34) Even an ocean voyage does not relieve an infected command of its infection.

35) After a command becomes badly infected with badly infected with typhoid fever changes of location together with thorough disinfection of all clothing, bedding and tentage is necessary.

36) Except in cases of the most urgent military necessity, one command should not be located upon the site recently vacated by another.

37) The fact that a command expects to change its location does not justify neglect of proper policing of the ground occupied.

38) It is desirable that the soldier's bed should be raised from the ground.

39) In some of the encampments the tents were too much crowded.

40) Medical officers should insist that soldiers remove their outer clothing at night when the exigencies of the situation permit." [21]

Another small group deals with the type of disease encountered. Conclusions forty-one through forty-four can be called the "Disease Type" group. Two of these are important.

41) Malaria was not a prevalent disease among the troops that remained in the United States."

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[21] **TCR, 1:665-673.**

The tests requested by the board for the malaria plasmodium showed that there was very little malaria in the camps.

42) The continued fever that prevailed among the soldiers in this country in 1898 was typhoid fever.

This was established when the typical temperature curve not broken by antipyretics, fever was not broken by quinine, death rate was that of typhoid and when postmortems were done, the characteristic lesions of typhoid were found.

43) In addition to the recognized cases of typhoid fever, there were many short or abortive attacks of this disease which were generally diagnosed as some form of malarial fever.

44) While our examinations show that coincident infection with malaria and infected typhoid fever may occur, the resulting complex of symptoms are not sufficiently well defined an uniform to be recognized as a separate disease.[22]

The final group is factual. The "Statistics" group is composed of conclusions forty-five through fifty-seven. Three of these conclusions are significant.

45) About one-fifth of the soldiers in the national encampments in the United States in 1898 developed typhoid fever.

The board came up with an overall figure of 19.26 percent. Using the figures the board collected for Camp Thomas, the number was 21.56%.

46) Army surgeons correctly diagnosed about half of the cases of typhoid

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[22] **Ibid., 673-674.**

fever. Most improperly diagnosed cases were listed as malaria.

47) The percentage of deaths among typhoid cases was 7.61.

Again using the board's numbers, the death rate for Camp Thomas was 7.3%.

48) When a command is thoroughly saturated with typhoid fever it is probable that one-fourth to one-third of the men will be found susceptible to this disease.

49) In military practice typhoid fever is often apparently an intermittent disease.

50) The belief that errors in diet with subsequent gastric and intestinal catarrh induce typhoid fever is not supported by our investigations.

51) The belief that simple gastrointestinal disturbances predispose to typhoid fever is not supported by our investigations.

52) In a considerable percent (a little more than one-third) of the cases of typhoid fever which are recorded as having been preceded by some intestinal disturbance, the preceding illness was so closely followed by typhoid fever that we must regard the former as having occurred within the period of incubation of the latter.

53) More than 90 per cent of the men who developed typhoid fever had no preceding intestinal disorder.

54) The deaths from typhoid fever were 86.24 per cent of the total deaths. Using the board's numbers, the rate for Camp Thomas was 87.8%.

55) The morbidity from typhoid fever per 1,000 of mean strength was a little less than one-fifth (192.65).

56) The mortality from typhoid fever per 1,000 of mean strength 14.63.

57) The average period of incubation period in from typhoid fever is probably about ten and a half days.[23]

The Typhoid Commission gathered a great amount of information in a short period of time and then spent an extended period in analysis. Its conclusions and the methodology of the study made it a landmark in American epidemiological studies. But the press continued to write stories about the outbreak and about military operations in general. The McKinley administration had to respond to continuing criticism.

Activities in the camps and operations in the field had been widely reported in the press, and the material presented to this point has prepared the reader for a discussion of what led to both investigations and how the investigations were reported. The events which occurred during the war and in its immediate aftermath were the reason why the commissions were formed. Reports filed by newspapers before the commissions began work raised issues that were examined by the commissions and represented the climate of public opinion. The investigations were based on widespread public demand, which was fueled by newspaper coverage. The problems that arose during the mobilization and deployment of the Volunteer Army, along with those occurring in military operations caused President McKinley to order an investigation of the War Department's conduct of the War.[24]

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[23] **Ibid., 674-676.**

[24] **DCR, 1:237.**

The Typhoid Commission successfully addressed the issue of disease in the camps. However, the press had reported problems with supply, administration, transport and a number of other issues. The overall conduct of the War Department during the war was begin criticized. On September 8, 1898, Secretary Alger wrote the President asking him to appoint a board of the most distinguished civilians and soldiers to investigate everything connected with the Army. The President composed instructions for the board, and the process of selecting members began. After an initial meeting, the commission received President McKinley's written instructions on September 27. They read: " There has been in many quarters severe criticism of the conduct of the war with Spain. Charges of criminal neglect of the soldiers in camp and field and hospital and in transports have been so persistent that, whether true or false, they have made a deep impression on the country." The instructions continued: "I cannot impress upon you too strongly my wish that your investigation shall be so thorough and complete that your report, when made, will fix the responsibility for any failure or fault, by reason of neglect, incompetency, or maladministration upon the officers and bureaus responsible therefore, if it be found that the evils complained of have existed." This commission was headed by Major General Grenville Dodge, and has been referred to by some scholars as the "Dodge Commission." General Dodge was elected President when the commission met for the first time on September 24, 1898. [25]

President McKinley took care to include a southern representative on the Dodge Commission. Captain Evan P. Howell was the former editor and half owner of the

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[25] **DCR 1:4,6,237, Cosmas, *Army for Empire*, 283.**

Atlanta *Constitution*, and a director of the Georgia Central Railroad. He was felt to be extremely influential in Georgia politics. His family retained a half interest in the *Constitution*. Press coverage of his appointment in the *Constitution* is cited, as well as stories of his inclusion in the commission from other newspapers.

The completed Dodge Commission report consisted of eight volumes containing reports of the deliberations of the commission, responses from various military departments to questions from the commission, and testimony before the commission. At the beginning of the eighth volume, there is a section titled "An Investigation Demanded. Letters to the President-Wrongs inflicted on the soldiers-Some of the appeals which helped to bring about the creation of the investigating commission." The complaints are indicative of the general issues confronting the Dodge Commission, but the testimony reported in the press gives greater detail. The press reports on visits by the commission reflect the desire of each city for continuing military presence with a military payroll to create new revenue for local merchants. [26]

On September 9, The Florida *Times-Union* in Jacksonville featured a story stating that Secretary Alger had asked the President to: "order a thorough and searching investigation of the War Department. Their editorial page commented: "We hope the Secretary will lose no time in locating the responsibility for the evils which he claims the yellow journals have unjustly saddled upon him; the people will be satisfied with no less."

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[26] **DCR 8:3-26.**

The Chattanooga *Times* also ran the story on its front page. The press welcomed an investigation to correct the lies of the yellow press about their communities. [27]

The critics of the War Department had succeeded in getting President McKinley to create a commission to investigate their allegations. The press had suggested that Secretary Alger was ineffective and called for his resignation. Newspaper coverage now focused on the legitimacy of the commission. During the selection process, articles described potential candidates and discussed their merits and perceived faults. For example, on September 11 The Tampa *Morning Tribune* reported President McKinley's choice for president of the Court of Inquiry was General Schofield and that the President also wanted former Confederate General John B. Gordon to serve. The story also reported that Secretary Alger has asked the President for the investigation because of: so much publicity given to alleged mismanagement and complaints in the Army that he desired the light to be turned on." The Florida *Times-Union* reported both the requests to Generals Gordon and Schofield, and the Alger investigation as separate, short front-page stories printed in the same column. [28]

On September 11, the front page of the *Times-Union* quoted Alger as saying: "What do you want me to do? Get down in the sewer with these sensational people? They are not worrying me. There is nothing to the charges except somebody's desire to make political capital." In a short item, it was noted that General Gordon had declined

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[27] **Florida *Times Union*, September 9, 1898, 1,4; Chattanooga *Times*, September 9,1898, 1.**

[28] **Tampa *Morning Tribune*, September 11, 1898, 1; Florida *Times Union*, September 10, 1898, 1.**

to serve. Another item mentioned that General Schofield had been Miles' predecessor as Commanding General of the Army. The editorial page had an item entitled "Investigate Red Tape." It offered the hope that the investigation would identify incompetence, but felt that the system of administration was also to blame for much delay and inefficiency in the delivery of material needed by the soldiers. It closed: " So far as men are concerned, the investigation will simply be a locking of the stable after the horse has escaped, but if the system is at fault, the investigation may help to remedy it, and good may result." This was a positive position regarding the investigation, but the newspaper left the possibility open for future criticism.[29]

Southern Democratic newspapers viewed the investigation with alarm and feared that the Republican administration would cover up scandal. The Chattanooga *Times* printed an interview with Colonel Sexton. He said that there would be no "whitewashing" in the investigation. The *Times* headline read: " One of the Whitewashers Gives Out in Advance What His Finding Will Be" which certainly hinted at the *Times*' position on the investigation. The September 18 issue of the *Times* reported that Captain Evan P. Howell, of Atlanta, Ga. had agreed to serve on the commission. The story said the President had assured Captain Howell that the commission "without fear or favor would probe to the bottom of the charges made by newspapers and individuals involving the efficiency and integrity of officers of the army and give the country the facts."

The *Times* made no mention of Howell's former association with the Atlanta *Constitution*. On its editorial page, it lamented the fact that men were electing not to

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[29] **Florida *Times Union*, September 11, 1898, 1,4.**

serve, but said: ”Such men as Howell and Dodge will see to it that a straightforward unearthing of the exact facts of the situation will be accomplished.” [30]

Howell’s service on the commission was the subject of a front-page article in the Atlanta *Constitution* on September 18. It discussed his conversation with the President in detail, and emphasized Howell’s determination to get at the facts. The article mentioned several other southerners that were being considered for the commission. The Southern newspapers were quick to identify and report on former Confederate leaders, and the discussion with Howell shows McKinley’s desire for credible ex-Confederate participation in the commission.[31]

The Atlanta *Constitution* quoted the Chicago *Times-Herald* on its editorial page: “Among those who have been offered and who have accepted a place on the commission to inquire into the conduct of the quartermaster, commissary and medical departments during the war is Captain Evan Howell, so long identified with the Atlanta *Constitution*, and a man who possesses the confidence of the entire south.” The article further states: “In the south, where he lives and is known by the great majority of the people, his bare, unsupported word is as good as any man’s bond. Certainly, if the president desired that any facts concerning the alleged mismanagement of the army departments should be concealed or any official “whitewashed” he would not have appointed honest, sturdy Evan Howell as one of the board of inquiry.”[32]

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[30] **Chattanooga *Times*, September 18,1898, 1,4.**

[31] **Atlanta *Constitution*, September 18,1898, 1.**

[32] **Atlanta *Constitution*, September 18,1898, 1,4.**

Secretary Alger had announced plans to visit all of the army camps. The press in each city to be visited reported this to its readers, emphasizing the importance of a warm welcome. The press knew that the Army was considering moving troops away from the existing camps, and each locality was eager to prove itself worthy of supporting a temporary camp and perhaps qualifying for a future permanent military installation. Editors spoke of the need for an investigation, but were careful to take a neutral tone as the date for Alger's visit approached. Notables were assembled to make his arrival a special event, with a reception and gala treatment. After his visit, when the Dodge Commission began its work, the tone of editorials would change.

The September 21 issue of the Atlanta *Constitution* carried a report that Secretary Alger would visit the city later that week. It went on to point out that he would be staying with Captain R. J. Lowry, who had extended the invitation as a response to courtesies shown him on a visit to Detroit by Alger's business partner. The article went on to say that the hospital at Fort McPherson was well-regulated and had a low sick rate, with many convalescents discharged after completion of their care. It concluded with a note that a committee of notables had been formed and the chamber of commerce would probably arrange for a grand reception. As in all of the southeastern cities, Atlanta's reception for Secretary Alger would be calculated to make him feel both important and welcome. [33]

The Florida *Times-Union*'s editor continued to be interested in the investigation, but also cautious about its effectiveness. The September 15 editorial column discussed

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[33] Ibid., September 21, 1898, 1

the need for men of character on the commission. It said: "But whether the commission gets to work or not, the department itself can still do much toward the redress of grievances or the punishment of remissness and incompetency which are daily an infliction and hourly an irritation to the soldier."[34]

When Secretary Alger's tour of the camps brought him to Florida, the Tampa *Morning Tribune* took a distinctly conciliatory note. Referring to him as: "Hon. Russell A. Alger, Secretary of War" and "a welcome visitor to our state," the *Tribune* noted that "the efforts to induce him to visit Tampa" "were fruitless." His visit was described as having two purposes, first: "to set right the alleged wrongs to the soldiers during the war and to place the responsibility where it belongs." And second: "to see the real condition of the hospitals and camps in our state." Referring to the investigation, the *Tribune* said that Alger's only response to the charges had been to demand an investigation. The article concluded: "It is due Secretary Alger that the verdict of the people be reserved until the committee submits a report."[35]

The Florida *Times-Union* was equally circumspect, since Alger was visiting Jacksonville. "Today one of the highest officials of our national Government comes to Jacksonville and will be welcomed by all our people – not only as one of those to whom has been committed some of the highest responsibilities of our country, but as an American citizen coming to do all in his power to set right what may be wrong with the soldiers whom the people love and honor. " The article addressed the issue of "yellow

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[34] **Florida *Times Union*, September 15, 1898, 4.**

[35] **Tampa *Morning Tribune*, September 27, 1898, 4.**

journalism": "Mr. Alger has been the target for bitter attack and unscrupulous invective, but yellow journalism is now known better than it was, and the American people can be trusted to do justice and wait for the evidence before uttering condemnation." It noted that many of the problems had been traced to the inexperience of volunteer officers, and observed that they had been selected by their men. An article in the Memphis *Scimitar* was quoted: "The first thing to be done to insure this necessary reform in conducting camps of instruction will be to quit making colonels, majors and captains of men who know nothing of the soldier's business. The greater part of the sufferings and hardships of our volunteers may be charged up to incompetent officers."[36]

The Chattanooga *Times* stated its editorial opinion on September 20. "The people of Chattanooga should unite to a man in the reception to be tendered Secretary of War Alger." It continued by stating that the city should show its appreciation for the man and the official, citing Alger's support for the use of Chickamauga. "Much of the abuse that has been heaped upon him comes from the fact that he has persistently denied the sensational stories of the unhealthfulness of the park and the dangers of maintaining an army there." It closed by suggesting that Alger's reception should be "cordial and generous." When Alger arrived in Chattanooga on September 21, he was greeted at the station by a group of notables and escorted to the local auditorium. Speeches were made by General Boynton, the commander of Camp Thomas, Surgeon-General Sternberg, who accompanied Alger, and by Alger himself. His comments were cordial, including

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[36] **Florida *Times Union*, September 25, 1898, 4.**

this remark. " I only hope that you may have that prosperity to which your geographical position and natural resources entitle you." The *Times*' story on the visit took up most of the front page, with a large drawing of Alger bringing the truth about Chickamauga Park appearing across five of the eight columns of the page. The *Times* also printed copies of two of the official reports about the purity of water in the park, and provided a detailed description of Alger's visit to Camp Thomas. It emphasized that the cause of illness was laxity on the part of commanding officers. Three days later, the *Times* ran a story headed "Hope for Army Barracks at the Chickamauga Park," citing the permanent assignment of an Army paymaster and the progress of cleanup work by General Boynton's civilian employees. [37]

The Chattanooga *Times* commented on press coverage of the commission, which it characterized as unfair: "To our mind, the condemnation of the commission's inquiry, before it has set down a line of testimony, or even summoned a witness to appear, is abominable; but that is what such a paper as the Philadelphia *Times* is doing. " It commented on the variety of coverage offered by "the mugwump and independent press" and closed: "All of which is causing the judicious to ask whether, after all, there is as much for good people to choose, as between such journalism as this and the yellow kid variety." It is notable that a southeastern newspaper in the Ochs chain is commenting on a northern newspaper story. The story's emphasis reflects the Ochs approach to journalism. [38]

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[37] **Chattanooga *Times*, September 22, 1898, 1,2,5; September 25, 1898, 4.**

[38] **Ibid., September 30, 1898, 4.**

Major General Joseph Wheeler, a former Confederate cavalry leader, appeared before the commission on October 4, and the Florida *Times-Union* headlined his testimony: "Old General Joe Wheeler Rebukes Yellow Journalism." The article did not specifically mention any yellow journalism, but did have positive notes about the overall performance of the troops and the support provided. An editorial stated: "Wheeler has set his heel on the snake of yellow journalism, and under it the "war correspondent" may writhe, but he cannot escape."[39]

Upon the completion of the commission's hearings in Washington, the Tampa *Morning Tribune* indicated that Secretary Alger was satisfied with its work so far. The commission was to begin touring camps in the South and the *Tribune* noted: " All the more serious charges against the War Department came through Northern sources, very few of which have been thus far satisfied. If the charges prove groundless, the department cannot blame the south for starting false rumors." The *Tribune* returned to the Dodge Commission with an editorial entitled "What the People Want." It began by stating that the results so far were what might have been expected from a whitewash and went on to add: "From all that the committee has thus far been able to accomplish the charge of whitewashing is well founded."A front-page story reported on the visit of two members of the Dodge Commission to Tampa. It mentioned favorable commentary on the accommodations provided for the troops, as well as the health conditions. "The one thing that most impressed the members of the commission was the remarkably low death rate of the troops that were encamped here. Of the 30,000 that were encamped

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[39] **Florida *Times Union*, October 4, 1898, 4; October 5, 1898, 1.**

here less than sixty died and 12 of these were caused by accidents. This is a record lower than that of any camp in the United States and certainly speaks volumes for this climate as well as the healthy condition of the camps." The newspaper used statistics to defend the city's reputation.[40]

On October 28, the Dodge Commission visited Chattanooga and toured Camp Thomas at Chickamauga. The *Times* reported: "While the officers would not talk for publication, it was clear that each and every one of them was pleased with what he saw and with the water supply in general." The commission heard testimony from two doctors about health conditions, and the theory that flies had spread typhoid fever was discussed, with the two doctors describing tests they had made. A separate article was headlined: " Chickamauga Park's Healthfulness Thoroughly and Forever Established." The commission spent the next day in Chattanooga, departing on Sunday. Describing the activities on Sunday, the *Times* had a second headline for the article :"Gen. Dodge and Capt. Howell Are Friends of Chickamauga." The story noted that four of the commission members went for a drive over Missionary Ridge. They stopped at a site where Captain Howell had placed his artillery battery during the Civil War, and Dodge discussed the battle with Howell. Howell remarked that he had not been back to this site in thirty-five years. They also discussed the fact that there was little or no disease in either (Civil War) army, believing that this might have been because they kept moving.[41]

On the final day, the generally cordial tone of the visit was disrupted. A local

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[40] Tampa *Morning Tribune*, October 19, 1898, 4. October 20, 1898, 1.

[41] Chattanooga *Times*, October 29, 1898, 2,5; October 31, 1898, 5.

clergyman, Rev. Ham, came to give testimony, and unfortunately arrived shortly before the commission was to leave for Lexington. He got into a heated discussion with Dr. Conner, one of the commissioners, who said the clergy should have done more to clean up the moral cesspools of the city. The clergyman offered testimony and was told to submit it in writing. He felt that he had been treated badly, and in his interview with the *Times*, said that he would not offer additional testimony. He stated: " I am convinced that the whole proceeding is a white-washing scheme, and I shall waste no valuable time writing out testimony for a waste-basket." [42]

In early February, the Tampa *Morning Tribune* also weighed in about the Dodge Commission. "As the *Tribune* predicted at the very outset, the War Investigation Committee appointed to investigate alleged irregularities in the conduct of certain war officials has turned out to be a little whitewashing expedition with instructions to support the administration at any cost."[43]

The Dodge Commission's report was released on February 13. Newspapers had been commenting in advance about the results and eagerly spoke out about them when they were released. The Nashville *American*'s headline on February 11, 1899 read: "War Commission Report is Upheld - Members Of The President's Cabinet Say It Is Not A Whitewash.". The Tampa *Morning Tribune* carried headlines on its front page on February 14. "Dereliction, Such is the Finding of the War Board Against Miles" The story was relatively brief, but noted the commission had interviewed 495 witnesses and

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[42] **Ibid., November 1, 1898, 5.**

[43] **Tampa *Morning Tribune*, February 3, 1899, 4.**

visited all of the camps.The Nashville American's story was headlined:" Alger Wins Hands Down."The *Times* headline was: "Miles Is Censured" Echoing the earlier report from the American, the article said: "Members of the cabinet declared the report of the war commission to be in no sense a whitewashing report." The article also had general comments about the types of faults found by the commission. [44]

The voices of the newspapers and the activities of the commissions conducting investigations have been heard. The eight volumes of testimony taken by the Dodge Commission contain reports, statistics, copies of messages and letters. But the most important content, that which makes the report invaluable, is the contemporary testimony of participants. Of course, those appearing in public before a government commission certainly wished to make a good impression, and perhaps their testimony was oriented to that end. Nonetheless, this problem is not a new one for historians. The voices of the generals, officers, doctors, civilians and soldiers provide the missing element in the study. What really happened? What was the experience of living at Camp Thomas during the outbreak? To supplement the testimony before the Dodge Commission, surviving regimental histories offer a glimpse of the daily life of the soldier. From a methodological viewpoint, one could take different approaches in presenting this testimony. Earlier, the voices of doctors in the regiments, examiners from the Typhoid Board, newspaper reporters and government officials have been heard. The voices of the generals will be heard first, followed by the officers, doctors, civilians and finally the few

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[44] **Nashville *American*, February 11, 1899, 1,February 10, 1898, 1; Tampa *Morning Tribune*, February 14, 1899, 1; Chattanooga *Times*, February 11, 1899, 1.**

soldiers who testified before the commission. But before they are heard, perhaps some knowledge about the composition of the commission is in order.

The members of the commission were: General Grenville M. Dodge, of Iowa, Colonel James A. Sexton of Illinois, Colonel Charles Denby of Indiana, Captain Evan P. Howell of Georgia, Governor Urban A. Woodbury of Vermont, Brigadier General John M. Wilson, Chief of Engineers, United States Army, General James A. Beaver of Pennsylvania, Major General A. McD. McCook, United States Army, Dr. Phineas S. Conner of Ohio. Major S.C. Mills, Inspector General, United States Army served as recorder. The commission appointed Mr. Richard Weightman of Washington, D.C., to serve as secretary of the commission.[45]

Several general officers testified before the commission about Camp Thomas. General Brooke appeared in Washington, D.C. on December 15, 1898. He was asked about his commands during the war and responded that he had commanded at Chickamauga Park and in Puerto Rico. General Wilson asked him how long he had been in Chickamauga and Brooke replied from April 20 to July 23. Wilson asked him to tell in his own way to tell the story of Chickamauga including conditions when he took command, problems he encountered in management of the camp and conditions when he left. Brooke briefly described the Regular units that moved through Camp Thomas and said they were well organized and moved efficiently.[46]

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[45] **DCR, 1:3.**

[46] **Ibid, 6:3065. Brooke's testimony continues to page 3106.**

General Brooke's testimony focused on the volunteer units that began arriving around May 15. He was directed to form the First, Third and as much as possible the Sixth Army Corps. Brooke said the volunteer units were not well equipped and did not have enough rations. Tentage was old, uniforms were worn and not really serviceable. Brooke said there was considerable difficulty in getting enough uniforms because the supply department was organized "parsimoniously" to supply an army of 25,000 men. Brooke stated that his problem was getting all of the regiments fully supplied. He commented that the First Corps, his Corps was filled with its 27 regiments in less than ten days. He said that on one day, they received six regiments.[47]

General Brooke spoke to the difficulty of logistics. He had been ordered to send eight of the best equipped regiments to Tampa immediately. In order to do so, he had to take equipment from other regiments, and even so, units went less than fully equipped. He cited the 157th Indiana as an example. They did not have belt straps and went with string and twine tying their equipment. In late June, Brooke was ordered to prepare to move three divisions to the West Indies under his command. He selected the First Corps as those most ready to go and emphasized completing their supply.[48]

Brooke's testimony on the camp itself characterized the water as good, sanitation was well done and the sick report was within acceptable limits. Numerous tests had proven the water pure. He said an effort was made to observe all sanitary rules and he stated he made rigid personal inspections, on an almost daily basis. He

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[47] **Ibid., 3065-3066.**

[48] **Ibid., 3066-3067.**

emphasized his work on the First Corps encampments, noting that General Wade was in charge of Third Corps and he did not inspect his areas as frequently as those of the First Corps. Brooke told the commission that he has prohibited hucksters from the camp and was told by his medical staff that the sick rate had gone down by 30% after that order was enforced. He testified he had a daily sick report, and on the day before his departure it was 4% for the entire camp. According to a report Brooke received in July, the number of typhoid cases was 92.[49]

General Brooke addressed questions on whether camps were policed, (i.e., kept clean), whether regiments had been moved, whether the soil allowed digging of sinks and whether medical officers' reports were acted upon by commanders. Brooke testified that some regiments had been moved, and said there was no problem with sinks and his medical officer reported to him frequently. One incident the commission raised was a report that Major J.C. Martin, a brigade surgeon, had told General Boynton that there was much typhoid fever in the camp and that Martin was subsequently threatened with a court-martial by Colonel Hartsuff, the Chief Surgeon at Camp Thomas for making that statement. Brooke noted that the incident apparently took place while he was in Washington, before leaving for Puerto Rico. Hartsuff was. General Wade was in command at that point. Hartsuff had written to the Adjutant General of Camp Thomas stating that there was a need to move units to other locations and made a number of sanitation recommendations. The commission also asked about the reputation of Colonel Huidekoper, who was the Chief Surgeon of the First Corps. Brooke testified that

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[49] **Ibid., 3067-3068.**

Huidekoper had been ignorant of military procedure when he arrived, but that Huidekoper mastered it and was an efficient administrator. Brooke testified that the hospital of the First Division, Third Army Corps was poorly located and he told Hartsuff to correct it. In response to a question asking whether he was aware of soldiers defecating in the woods, Brooke stated he had observed some men from a Mississippi regiment doing this.[50]

General Brooke's testimony was positive and he did not like to hear bad reports about his time in command. Major James Parker of the 12th New York made a report to the Adjutant General in August concluding that conditions at Camp Thomas were so bad the camp should be abandoned. General Brooke was asked if the report reflected correct conditions in the camp. Brooke replied that if the commission would give him a copy of the report, and its author was not protected by the commission, he would see that the author faced a court martial for making the statements.[51]

The commission continued questioning Brooke, drawing on a number of reports and articles in the press. Brooke responded that he had regularly inspected the areas, directed his staff to take action and if complaints had been made, he responded to them. In summary, he took the position that he had done all of the right things. In his discussions with the commission, he made reference to Civil War experiences that all the members of the commission shared. His fellow veterans seemed to treat him politely,

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[50] **Ibid., 3073-3080.**

[51] **Ibid., 3081-3082.**

with only Evan Howell questioning him intensely. Brooke was critical of Colonel Hartsuff, the chief medical officer.

General Joseph C. Breckinridge gave his testimony in Washington November 14, 1898, about a month before that of General Brooke. His testimony addressed the condition of the volunteers when he took command, their sanitation and water supply. The commission established that he had assumed command on August 2, and that there were about 45,000 men at Camp Thomas at that date. He noted that he had inspected the volunteer units in May and they were very much improved. He stated that the volunteers were at the beginning of an epidemic of camp fever, and observed that disease got worse until the camp was abandoned. Breckinridge said the sanitary arrangements in the camp were fair, but varied between units. There was a tendency with many inexperienced troops for conditions not to improve over time. Breckinridge said that orders about sanitation had been issued by his predecessor and steps had been taken, with some organizations taking greater steps than others. Breckinridge said that commanders with experience knew how to keep up a camp and anyone could see the difference. [52]

In response to a question on the water supply, Breckinridge said that he did not think there was any point in trying to improve it further because the command was already so infected that breaking it up was the best course of action. Breckinridge said there had been investigations of sanitation in process by boards from Washington. He said there were two boards and Dr. Reed was on one of them. He went on to explain that

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[52] DCR, 5:1758-1760.

he had established a board directed by General Sanger to inspect and report on sanitation. In early August, he said that he had concluded the best thing to do would be to return the regiments to their homes and muster them out. He reached this decision and kept it in confidence, but said he made a verbal report before the Sanger board had concluded its work. Breckinridge said he had taken three separate actions; first, establishing the Sanger board, second, having an inspection of the entire command made by inspectors general and third, receiving regular reports from his own staff officers, including Colonel Hoff who were to report on immediate actions needed.[53]

Breckinridge said that the hospitals had not been organized when he inspected in May, but that he had visited them when he took command. He said their condition was objectionable, they were overcrowded, the nursing was poor, administration and nursing management were bad and the tents lacked flooring . Relief organizations supplied many items. When he was asked whether the Medical Department anticipated and overtook the needs of the hospitals, Breckenridge observed that they recognized the need but never caught up. He commented that once he recognized the need and worked with Colonel Hoff to correct the situation, it improved. General Beaver asked why Hoff has not done so sooner, and Breckinridge said he was not sure why. [54]

Breckinridge said he made sure that flooring material was ordered, as well as tentage. When his staff said they could not get lumber locally, he told them to order it from elsewhere and it was done. When asked if the commanding general could get things

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[53] DCR, 5:1760-1762.

[54] Ibid, 5:1764-1765.

done because of his authority, Breckinridge agreed that he could. When asked if the camp was in a bad condition when he got there, Breckinridge answered in the affirmative. Breckinridge commented that he had a hard time getting changes made because the hospital staff were in the habit of doing things one way and did not respond quickly. He also said he had a hard time getting nurses. [55]

Asked if the death rate indicated hospitals were ill kept, Breckinridge said the death rate had been lower than in the Civil War. He was asked directly if his predecessor could not have accomplished all of the things he did, and he said that General Wade was only in command for a short time and General Brooke did not have the same feeling of necessity. Breckinridge said there were indications of conditions that his predecessor had no reason to believe existed. Presumably, Breckinridge meant that the outbreak of typhoid had not become so widespread by the time Brooke departed.[56]

When Breckinridge returned on November 15, his testimony shifted to the subject of camp cleanup. He had issued an order requiring departing regiments cleaning up their camps. Breckinridge said the order directed regiments to return the camp to its original condition as nearly as possible. After the troops left, it was reported that there were 3,175 sinks that needed to be filled up, and Breckinridge was asked if the order had been obeyed. Breckinridge commented that a great many of the regiments cleaned up as well as a Regular regiment would have. He acknowledged that as more and more regiments left, the task became more difficult to accomplish. He said diseases

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[55] Ibid., 5:1769-1770.

[56] Ibid., 5:1771.

were common in all armies and the situation was the fault of the American nation. He noted that the country made insufficient preparations for war, and volunteer soldiers had to absorb the results. The nation needed to have a plan for mobilization. The army did not have 250,000 rifles or uniforms, but the militia did as well as could be expected.[57]

Taken along with Brooke's, Breckinridge's testimony identified a problem, namely the amount of time available for effective action. Brooke pointed out that he had no problems up to his departure. He was in Washington from before July 17, returned on July 23 and left around July 25. Breckinridge arrived to take command August 2 and quickly had to deal with disease. The general order for cleanup of the camp was issued August 19. So Brooke left effective command July 16 or earlier, Wade was in command from mid-July to August 1 and Breckinridge in command from August 1. Wade held command for about two weeks and Breckinridge for seventeen days. Both the disease outbreak and the corrective measures were underway, and neither man had time to make more than the most rudimentary changes in operations. General Wade did not testify before the commission.

General Sanger was mentioned in General Breckinridge's testimony as head of a sanitary board. He testified in Lexington, Kentucky November 2, 1898. The commission established that Sanger had been a major in the Inspector General's office at the war's outset and was subsequently promoted to lieutenant colonel and inspector general of volunteers, remaining on duty in Washington. He was subsequently promoted

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[57] Ibid., 1780-1782.

to brigadier general of volunteers and on June 29 assumed command of Third Division, First Corps. He remained in that assignment on the day that he testified.[58]

Sanger's testimony clarified an issue that has appeared several times in testimony, the character of the soil at Camp Thomas. Sanger said that the soil was not considered by textbooks or by medical officers to be well suited for camp sites, because it was clay underlaid with limestone. He observed that the soil on the west side of the camp was very much better for camps than the east side. Sanger testified that he tried to get his command moved, but was not able to do so until August, shortly after General Brooke's departure. Sanger also complained that there was not enough good water available and there was a lack of water barrels to haul it. There was also a shortage of disinfectants for the sinks, which contributed to disease.[59]

Regarding the effectiveness of administration and supplies, Sanger described a situation that occurred in his command. His division chief surgeon received an order from the chief surgeon of the corps directing him to use his hospital as a medical supply depot and support other hospitals. Sanger pointed out that if medical staff officers could direct the division hospital, then asked how could he, as division commander be held responsible. He said all orders should go through command channels. General Sanger said he visited the division hospital almost every day and spoke with the medical officers about their needs. He discovered that the medical officers of the corps could take anything they wanted from the division hospital. He was advised that he had no control

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[58] DCR, 4:1108-1109.

[59] Ibid., 4:1109,1111.

over the division hospital or the ambulance company from July 20 until General Wade took command. Sanger explained that the division hospital was staffed by removing personnel from the regimental hospitals. This caused the removal of medical officers from their own men. With the rapid increase in sick, some regimental hospitals held up to 100 men with a lack of trained personnel to give them care. Soldiers feared the division hospital because of stories of lack of care there. The remaining regimental medical officers were overworked and did not have time to do the necessary sanitary supervision. Sanger said that orders about sanitation were issued by Major J.D. Griffith, chief surgeon of the division.[60]

General Sanger revealed his anger towards Congress, which he blamed for failing to pass implementing legislation which would have made the lines of authority and responsibility clear. Sanger further commented that Congress was responsible for the bad administration of the Army and its organization. He stated that they ignored proposals to reorganize the Army on modern principles, and if they continued failing to act, the experiences of this war would be repeated. When Sanger was asked if the actions of Congress since the Civil War had not tended to limit and deplete the authority of the Army in nearly all of its acts up to the time of war. Sanger said records were readily available showing that the tendency of Congress was to cut expenses and restrict the Army.[61]

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[60] **Ibid., 4:1112-1114.**

[61] **Ibid., 4:1115.**

Major General James H. Wilson's testimony echoed that of Sanger regarding the establishment of division hospitals. Wilson had commanded the First division, First Army Corps from its formation at Chickamauga through the Puerto Rico campaign. He said he did not think the camp unhealthy, but felt that typhoid had been brought to camp by the 16th Pennsylvania and one of the Illinois regiments. He said the general order establishing the division hospitals was explicit. The execution of the order was initially the responsibility of Colonel Hartsuff and later Colonel Huidekoper. Wilson said the regimental officers and those with Civil War experience resisted the order, because it removed two of the three doctors from each regiment. Wilson said he refused to forward a joint letter from the colonels of his regiments complaining to General Brooke. He stated he knew that some of them had written individually to Brooke, asking him to rescind or modify the order. [62]

Brigadier General George W. Davis testified that he had received verbal orders to go to both Atlanta and Chattanooga in order to determine the fitness of these locations as sites for mobilization of volunteer troops. Davis stated that he found the water supply in Atlanta would require extensive preparation. He knew Chickamauga Park well and had visited there several times before. He reported that the site was ideal for the camp. He was then assigned to other duties at Camp Alger, Va.[63]

Brigadier General H.V. Boynton discussed the establishment of CampThomas

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[62] **Ibid., 4:955.**

[63] **Ibid., 4:1258.**

and the disease situation in the surrounding area. He had served as the chairman of the Chickamauga Park Commission and was appointed a brigadier general of volunteers in mid-June 1898. He received verbal orders from the Secretary of War to remain at Camp Thomas to assist in preparing the camp and facilitate the organization of the troops there. On August 20 he was directed by the War Department to examine the water supply and investigate possible pollution of the watershed. At the same time he was also ordered to have general exercise over the matter of sanitation in the park. When General Breckinridge left the camp, Boynton was assigned to command it. He noted that Major (later General) Davis had examined the park and recommended its use. Boynton stated that there were about 56,000 men there at the greatest time of occupation.[64]

Boynton testified about local diseases and stated he had examined county records for Walker and Catoosa counties and found a total of twelve deaths from typhoid fever in Walker County and none from Catoosa County. He also commented that before the war he had a labor force of 2,300 men building roads in the park. They worked over a two-year period and never had a case of typhoid. He also testified that there were three general sources of water for the camp, springs, wells and the river. There were nine wells in the park at the beginning of the war, and additional wells were drilled to reach a total of thirty-six. All five springs were walled up and had force pumps, so that water could be pumped into barrels. The water pipes were supposed to

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[64] Ibid., 3:56-57.

be used for the animals in the camp. Boynton said there were between 10,000 and 15,000 animals in the camp.[65]

Continuing the discussion of the water supply, General Boynton described tests of the water from the river. He stated that the water had been tested four times. He said that there was no possibility of infection above the source where river water was drawn. A bacteriological examination had been done by a chemist from the Knoxville waterworks. This was done to avoid any suggestion that a local chemist might deliver reliable test results. Boynton stated the examination was very satisfactory. He commented that the water supply was ample and pure, but that when disease began to spread, doctors condemned his wells and springs and he removed the pump handles. Water was then hauled from the springs in barrels.[66]

Boynton noted that in some places the rock made it impossible to dig sinks greater than two feet in depth. He cited one regiment that had actually blasted to make sinks eight to ten feet deep. In other parts of the camp, the soil was deep and sinks could be readily dug to eight to ten feet deep. He noted that covering wastes with earth was used at first, as quicklime could not be readily obtained, but later it was supplied and used.[67]

The commission asked General Boynton about typhoid fever. He said it did not

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[65] Ibid., 3:58-60.

[66] Ibid., 3:60-62.

[67] Ibid.,3:64-66.

become a problem until after General Brooke left the camp. He stated that up to July 15, there were less than two typhoid cases per thousand. Boynton thought that there were about 400 cases of typhoid in 56,000 men. He stated that he had reviewed the books of the Second Division hospital and found 270 cases of typhoid between June 10 and September 5, when the hospital was closed. He stated that Colonel Hartsuff was chief medical officer of the camp and had been succeeded by Colonel Hoff.[68]

Soldiers also testified before the Dodge Commission. Their voices added additional insights on living conditions, the water supply and sanitation.

One soldier's testimony was more specific about the issue of rock preventing the digging of deep sinks for latrines and garbage disposal. Corporal William H. Burt of the 1st Vermont Volunteer Infantry testified before the commission in Burlington, Vermont. He said that drainage was very poor and it was almost impossible to dig deep enough to have sanitary conditions. Burt went out with a detail to dig a kitchen sink. The men dug about 18 inches and struck limestone. Burt described the stone as being like flagstones in a sidewalk. He stated that if men found a crack in the stone they could dig underneath and lift it up. He reported that it was not possible to dig sinks more than four feet deep. He said they filled up with water and never dried out. He was convinced that not enough lime was used to cover the wastes.[69]

Sergeant Francis H. Buzzacott of the 3rd Illinois Volunteer Infantry testified

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[68] **Ibid., 3:66-67.**

[69] **Ibid., 4:1523-1524.**

about latrines. Buzzacott stated that he believed that one of the causes of disease was the improper burying of refuse matter. Latrines became fouled and smelled bad. They were full of flies, despite the use of disinfectants. Men began to avoid them and deposit waste in the area around camp. Buzzacott said it was impossible to prevent this practice.[70]

Private Louis E. Kreuss of the 9th New York Volunteer Infantry leveled charges about the neglect of enlisted men. He stated in his complaint that he went for four days in the hospital without medicine or food and that another soldier had died of typhoid and was left for two days without being moved. When he appeared before the commission, he was asked if he had in fact gone four days without either food or medicine. Kreuss said that he had some food and medicine. He was then asked if the man had not been moved for two days after dying. Kreuss said he was in the dead house for two days, but did not know of his own knowledge that the man had remained in a tent without being moved. When he was asked again if the specific allegation's he had made were true as the commission stated them to him Kreuss admitted that they were not.[71]

Private Luther N. Fennell told the commission about his experience in the hospital shortly after his arrival at Camp Thomas. He appeared before the commission in Burlington, Vermont. He testified that his camp site was in the woods and the soil was so rocky it was hard to drive tent pegs. He had gone into the division hospital June 1

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[70] Ibid., 5:1592-1593,1597.

[71] Ibid., 5:2363.

with diarrhea. He was asked if the ailment was from too much pie, but Fennell thought it had been from tomatoes. He said he was well cared for in the hospital, had two male nurses and the food was good. He noticed no ill treatment while he was in the hospital. He went to sick call periodically and received doses of quinine, but Fennell said the medicine did not help him. Fennell told the commission that the soldiers were eager to go to the front and resented the fact that they could not go sooner. He got sick again before the regiment came home and was ill for five weeks. Fennell described his disease as typhoid malaria.[72]

Another soldier described his experiences as a hospital steward for much of the time Camp Thomas was occupied. Harris H. Walker of the. 1st Vermont served as an acting hospital steward and worked in the regiment until June 16, when he was sent to the division hospital. He said that the division hospital was not crowded. Eight patients were in each tent, well supplied with cots. Later it became harder to get cots, and Walker stated that in some cases, men had to lie on the ground for two or three days before getting a cot. He stated that if a man was known to have typhoid he was well taken care of, but there was confusion because the symptoms of malaria were similar. There were no floors in the hospital tents until Major Drake took over. Walker stated that there were a great many inefficient men detailed as nurses and they had to be transferred to the ambulance corps. He was personally not aware of any complaints or neglect of patients. Walker himself was sick on two occasions with malarial attacks. He said Major Drake "lived in the hospital," meaning he was there all the time. When the

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[72] Ibid., 4:1503-1506.

disease level rose, he said they could have used additional details from the regiments, because many of the nurses were also sick.[73]

The last soldier's testimony describes an instance where a family member arrived to give care to a soldier, and events led to a complaint to the commission. Frank Bailey, an attorney, went to Camp Thomas when his brother, Luther Bailey was in the newly opened Sternberg Hospital. Frank Bailey claimed that his brother received little care beyond that which Frank gave him. He stated that there were not enough sheets, orderlies, bed pans or urinals, so men were forced to lie in foul beds. Frank Bailey said most of the patients had typhoid fever. He commented that the orderlies were unwilling and would curse patients or refuse to obey the nurses and fail to clean bedpans and urinals. He commented that only water was used to clean bedpans and urinals. He stated that there was no bichloride in the wards for the first ten days or so. During the last half of his stay, the wards were cleaned out regularly, but that was not true for the first half. Bailey said he stayed at the hospital for the first ten days, nursing his brother who was delirious. After that he moved into a hotel in Lytle at the edge of the camp. He ate his meals at the hospital mess tent while nursing his brother. Frank Bailey also said his brother did not get enough medicine, sometimes only whisky. Bailey stated that Major Giffin did not seem to care about the work of the hospital. Finally Bailey stated that there was an unclosed sink close to the hospital. Bailey claimed he had complained to Major Giffin twice, with no results.[74]

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[73] **Ibid., 5:1622-1625.**

[74] **Ibid., 5:1605-1612.**

Luther Bailey described hospital conditions from the viewpoint of a patient. He was in the hospital for nine or ten days. When asked abut his care, he said he did not know as he was delirious most of the time he was in the hospital. Luther said he saw a doctor break a boil with his hands rather than with a lance, and he occasionally did not get clean sheets if he soiled them. He said doctors came through twice a day and there were night and day nurses on duty. Luther said he did not express any opinion about his care pro or con to anyone from the hospital. He did not recall having seen Major Giffin in the ward at all.[75]

Major R. Emmett Giffin testified about hospital conditions on October 8, 1898, and was later recalled to discuss Frank Bailey's allegations. Giffin was initially assigned to the Second Brigade, First Division, Third Corps. He had visited the division hospital and found it crowded, and not suitable, with too many men (eight) to a tent. He said the doctors were very good. Giffin noted that his brigade had mostly typhoid cases, with about 20 percent of the sick having venereal diseases. In early August he was detached from the brigade and directed to build a complete hospital for the care of five hundred patients. The division hospital he visited had been in operation before his arrival and sent its patients to his new hospital. Giffin thought that the chief surgeon of the hospital should have gotten more tentage to ease the crowding. Giffin observed that running a hospital required not only medical knowledge but the executive ability to handle men and direct the operations.[76]

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[75] **Ibid., 5:1612-1616.**

[76] **Ibid., 3:143-147.**

Major Giffin was asked about the development of typhoid fever and the hospital he was directed to build. He stated that he understood that typhoid was brought to the camp by the 1st Mississippi, and there was also a case in one of the Pennsylvania regiments. He was not aware that every regiment had typhoid cases, but stated that typhoid spread throughout the Third Corps. Giffin said there were between four and five thousand cases of typhoid. Giffin reported that the hospital originally intended for 500 patients was increased in size to 750, and later to 1,000 bed capacity. He built 13 wooden pavilions,, each to accommodate 20 patients. In addition there were 100 hospital tents, with wooden floors. Iron cots and mattresses were provided, as well as bedding. Giffin stated he had as many as 533 men in the hospital at once, and treated a total of 1,127 cases. He had 167 female nurses and 159 hospital corps men. Latrines were constructed so that excreta could be taken away and burned. Bedpans and urinals were cleaned with a bichloride and the hospital floors were a washed daily and bedding disinfected with a bichloride solution.[77]

Giffin was asked if many typhoid cases were kept in the regimental hospitals after the disease developed. Giffin agreed that this was so. The commission also asked if the cases could have been taken away and isolated and Giffen said it could have been done. He was then asked if it was better to have selected men as doctors rather than political appointees, and again Giffin agreed.[78]

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[77] **Ibid., 3:150-154.**

[78] **Ibid., 3:155-157.**

Major Giffin was recalled three weeks later and was asked about several of Frank Bailey's allegations about unclean linens, supplies and sanitation. He was asked if there ever was a case where men had to lie in fouled sheets and Giffin replied that there was not. He was asked if he knew Frank Bailey and Giffin replied that he had seen him many times. The commission then asked if Luther Bailey had competent nurses, and Giffin responded that Bailey's ward had two female nurses and three male nurses. When he was read the allegation that patients didn't have bedpans or toilet paper, Giffin said each tent had four bedpans and he had spares in stock. He said carbolated gauze was used to clean patients after bowel movements and toilet paper was not used. In response to a series of allegations from Frank Bailey, Giffin insisted that adequate care was given, frequent visits were made by doctors, including Giffen himself, surgical lances were available in each ward, as were disinfectants. Giffin said when he would not furlough Luther Bailey, Frank Bailey told him he would get even by writing letters to his hometown newspaper. Giffin had permitted Frank Bailey to stay with his brother and allowed Frank Bailey to eat at the government mess without charge for six weeks. [79]

The testimony of soldiers confirms the difficulty of digging latrines in some areas. On the other hand, some of the allegations made were withdrawn when the individuals appeared in person. Major Giffin apparently was able to draw all of the material he needed for the hospital, which might make Frank Bailey's allegations somewhat questionable. The timing of the new hospital is notable. Giffin began construction in early August, and the regimental withdrawal began around August 12.

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[79] **Ibid., 4:827-830.**

Provision of a general hospital, which might have improved the patient care, did not occur until it was too late. The ample supplies, new tentage and wooden buildings and a large staff of trained nurses along with disinfectants and the burning of excreta all addressed problems raised in testimony.

Civilian testimony provides another viewpoint of events, that of onlookers. The Dodge Commission heard from people who came to Camp Thomas in a variety of roles and thus experienced the outbreak from different perspectives.

Lucius M. Drewry had served on a committee sent by the Army and Navy League to investigate conditions at Chickamauga. He was a native of Georgia, and when questioned bout how the local population got their water, Drewry said springs or wells were the normal supply. He stated that they did not drink creek water. He was asked if the locals had privies near wells, and he said they undoubtedly did that. He was asked if the local people were sickly or had complexions of a yellowish hue, and he said they did not, but rather were healthy in appearance. Dr. Connor asked if all of the bottom lands were recognized as malarious, and if this condition was not generally true in the southern country. Drewry replied that he agreed with Connor.[80]

Mrs. Joseph John Gest visited several camps where Ohio volunteers were serving as a representative of the Army and Navy League. Women's organizations had been active in providing support for soldiers, and her response to conditions reflected this concern. Her last stop was in Chickamauga, just before the beginning of August. She visited the Second Division Hospital and met with Major Stone. She told the commission

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[80] **Ibid., 4:1179-1180.**

that she did not suppose there was a worse place in the world. The air was foul as she arrived at the hospital and she chose not to go into the tents. Mrs. Gest stated that two men died while she was there. She reported that the beds were placed very close together, with little room to pass between them. She said Major Stone told her they needed everything and asked her to get supplies sent by a personal friend of his in Pittsburg. She visited the Ohio regiments and they told her they could take care of their own if they were let alone. She met with General Cowan and he wrote to the Red Cross in Pittsburg. Mrs. Gest heard that the Red Cross sent a large amount of supplies, so she supposed the hospital had received them. It is notable that doctors felt free to ask for help from outside the Army system, and equally notable that the Army permitted the help in the form of supplies and food to be delivered to the hospitals.[81]

Fred J. Pflueger came to Camp Thomas to give care to a friend and his testimony described the final days of a soldier. He visited Camp Thomas on August 1 to see Alfred Boedeker. It is not clear from his testimony what unit Boedeker was assigned to, but Pflueger makes mention of the Second Kentucky. He found the soldier on a cot in the division hospital. He did not know which hospital, but said that the Second Kentucky was assigned to Third Corps. (The Second Kentucky was assigned to the Second Division, Third Corps.) Pflueger was asked to describe Boedecker's condition and he replied that the man was in bad condition. Boedeker was in a white shirt and his clothes had been packed away. He had a blanket, but no sheets or pillowcases. Pflueger said he could not tell if any others had similar bedding as the tent was very crowded. There were five

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[81] Ibid., 4:1352-1353.

soldiers in the tent. Pflueger could not say what size the tent was. He said there were two male attendants on duty, detailed from companies. Pflueger said Boedeker's tent was clean, but a man in the next tent was covered in maggots. The attendants told him the man had typhoid and he died the next day. Some beds had mosquito netting and some did not. Pflueger had Boedeker's diary and read from it to the commission. Boedeker said he became chilled after marching in the rain. The regimental doctor told him he was feigning illness and sent him back from the regimental hospital after three days. At the hospital a second time, Boedeker was in a tent with nine other soldiers with fever. After twelve days, he was sent back to duty. Pflueger got a furlough for Boedeker and went with him on the train. The sequence of events is unclear, but it appears that Boedeker and Pflueger went to his home on August 2. Boedeker died at home August 8. Pflueger said the hospital did not give Boedeker any medicine on August 1 and 2.[82]

Thomas Reed also came to give care and he described what happened when his son was moved from one hospital to another. His son was in the 2d Kentucky Volunteers. Reed went to Camp Thomas on August 14 to see his son, who was ill with typhoid and in the Second Division Hospital. He found his's son was in a tent near three others, and Reed stated that the four tents had more than forty men in them. Reed was told by a Major Smith that the patients were to be moved to the Sternberg Hospital the next day. When he returned the next day, about sixty men had been loaded on ambulances. They were left in the sun for about fifty minutes until all of the ambulances had been loaded. The men had no food or water and only two bedpans and one urinal

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[82] **Ibid., 4:1302-1305. For the unit assignment TCR,1:214-215.**

for 24 patients. When the patients got to the hospital, Major Giffin, the hospital commander came through and Reed asked for milk for his son. Reed reported that Giffin spoke roughly to him and said his son was not as sick as many others. Reed was excluded from the hospital and had to get a pass from Major Giffin to see his son again. About ten hours after Reed was allowed back into the hospital, his son died.[83]

Helen Stuart Richings's testimony gives yet another commentary on the outbreak from a woman's point of view. Miss Richings was a minister and went to Camp Thomas to be of help. She stayed from June 9 until August 4. She testified about the Second Division, Third Corps Hospital. She said it had a horrible stench and general dirt and disorder. There was a lack of sanitation and drinking vessels were shared by sick and well men. Men spit on the floor and patients were lying in their own excrement. There was no provision made for bathing the men and nurses refused to turn the patient's heads to make them more comfortable. Richings told the commission that one soldier from Nebraska was in the hospital for twenty-one days, and his lieutenant got permission to move him to a private hospital. She stated that when she saw him, his eyes, nose and mouth were full of green flies. She was asked if the nurses were inefficient and she said that they were, noting that if they had been drawn from the ranks of private soldiers, this was not surprising.[84]

The testimony of the civilians seems to echo that of the soldiers. The

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[83] **Ibid., 1343-1345.**

[84] **Ibid., 5:171-1711.**

Second Division, Third Corps Hospital appears to have been a facility that drew many complaints. The voices of the doctors add a different dimension. Doctors were administrators as well as care givers, and their testimony reflects these two roles. Lieutenant Colonel Albert J. Hartsuff was surgeon of the Army at Chickamauga and the senior medical officer at the camp. Each of the two army corps had its own chief surgeon. Lieutenant Colonel Rush S. Huidekoper was chief surgeon, First Army Corps and Lieutenant Colonel John Van R. Hoff was chief surgeon, Third Army Corps. Requisitions for supplies and medications were sent from regimental or division surgeons to the corps surgeons for approval and then to Colonel Hartsuff for final approval.[85]

Colonel Hartsuff's testimony covered a wide range of topics including the selection of camp locations for regiments, recommendations for moving units to new sites, training of civilian and volunteer surgeons in Army administrative paperwork, medical supplies and the selection of corps surgeons. He appeared before the commission on November 3, 1898, and was subsequently recalled on December 13, 1898. In his first appearance, Colonel Hartsuff testified that he had been an Army officer for thirty-seven years. He testified that the site locations were made by General Brooke and medical officers were not consulted. He stated that the typhoid outbreak was due to bad water. Hartsuff said that soldiers dug into hillsides with tin cans to get ground water to drink. He stated that he had recommended that the dumping grounds created by regiments be eliminated and new central ones established, with trash being burned daily.

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[85] **Ibid., 4:1135,1144-1145; 5:1731; 3:258.**

He said these recommendations were not implemented by General Brooke. Colonel Hartsuff said that he recommended a medical supply depot be established. He also stated that he recommended that units be moved and again his recommendations were not approved. Hartsuff noted that he did not leave until after the disease outbreak began, departing on July 27. He told the commission that he held training sessions for new volunteer surgeons on Army paper work. Hartsuff stated that the establishment of division hospitals was disruptive, and regimental hospitals were allowed to continue in operation. He also noted that none of the volunteer hospital corps men were mustered into service, so units were short of trained medical personnel. Hartsuff also said that hospital commanders were often not able to complete all of the administrative tasks needed. He said in one case, he went to the hospital, relieved the commander and ran the hospital himself until all was in order. He left the hospital and within a week, conditions were again chaotic. He concluded his initial testimony by saying that sickness at Camp Thomas was due to inexperience and in some cases, inefficiency of medical officers, but also to the inexperience and inefficiency of line officers, who should have enforced sanitary regulations.[86]

When Colonel Hartsuff was recalled, his testimony covered the selection of corps surgeons, the establishment of division hospitals and volunteer medical corps men. When he was asked if the surgeons in the corps and brigades reported to him, he stated that they reported to the Surgeon General. He testified that the persons holding these positions were assigned to their posts by orders from Washington, and Hartsuff

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[86] Ibid., 1134-1147.

had nothing to do with their selection. The commission discussed the order establishing division hospitals and the removal of regimental surgeons from their units in order to establish these hospitals. Colonel Hartsuff indicated that no hospital men came in with the volunteer regiments. He stated that he had personally communicated with the Surgeon General and asked him to communicate with state governors to enlist their hospital corps and send them to the units in the field. He said the recommendation was not acted upon, and could not say why it was not or who made the decision. Care of the sick was accomplished by details from each regiment.[87]

Hartsuff felt that he had done all in his power to get supplies, but his efforts were not successful. Very few of the volunteer regiments arrived with hospital supplies. Hartsuff stated that he asked for a medical purveyor, additional supplies and a medical supply depot in messages sent on April 25, 26 and 27. He testified that the purveying depot was established in May, but could not say exactly when. He noted that he ordered medical supplies for 20,000 men on May 14, but they were not sent. Although he had held training classes for the volunteer medical officers and given them copies of all forms and a copy of the Medical Department manual, he observed that they were unable to prepare requisitions. Hartsuff said he did not require requisitions. He said that if he observed that regiments were well supplied, he would direct the medical purveyor to deny supplies to them. He noted that despite a series of letters and telegrams to the Surgeon General, he did not get all of the supplies he needed. [88]

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[87] Ibid., 6:2968-2977.

[88] Ibid., 6:2977-2981.

Hartsuff was able to document his requests to the Surgeon General and his requests that camps be moved. On July 11, he recommended an immediate change of camp and as a result the 1st Mississippi was moved to a new location, but the other two regiments in their brigade were not moved. On July 14, he sent a letter to the adjutant general noting that changes in staffing in the division hospitals could create bad conditions injurious to patients. The commission asked if any of his recommendations were approved and he replied that they were not. They asked if any line officers had been charged with failure to comply with sanitary rules. Hartsuff said no such charges had ever been made. He was asked whose responsibility it was to take such and action and he replied that it was the commanding general.[89]

The commission returned to the issue of the corps surgeons. Hartsuff again told them that the corps surgeons reported to the Surgeon General and not to him, and he did not receive reports from them. It was their responsibility to run the hospitals. Hartsuff said that when the First Division, Third Corps Hospital was run inefficiently, he went in, took it over and corrected the operations. He also said he had spoken with Dr. Hoff about the Second Division Hospital, and Hoff had relieved several of the hospital commanders in the Second Division hospital. Despite these changes, the hospital continued to have problems.[90]

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[89] **Ibid., 2981-2987.**

[90] **Ibid., 2988-2996.**

One additional issue raised by the commission was a report that an officer was threatened with court-martial for reporting that typhoid was widespread. Colonel Hartsuff was asked about a report that Major Martin of the Second Division, First Corps had been called to headquarters. Hartsuff remembered that he had. He stated that General Boynton told him that rumors of numerous cases of typhoid were being circulated in Chattanooga. Hartsuff stated he had a report noting a total of only 92 cases of typhoid fever. He told Martin if he did not either prove his statement or retract it, he would probably be court-martialed for spreading false reports. He said that General Brooke then took Major Martin to meet with General Sheridan, and General Sheridan repeated that if he could not prove his statements, he deserved to be court-martialed. Martin stated that he had not examined the cases, but that it was rumored all over the camp. The commission pointed out that it was later shown that there was extensive typhoid, and that Major Martin was right.[91]

Major Martin had the opportunity to tell his version of events. He testified that he had mentioned the typhoid rumor to General Boynton in a conversation. Martin said he got the information from Major Carter at the Leiter Hospital. He was told the surgeon in command stated there was no typhoid in the Second Division Hospital. Martin said the report must have been suppressed, and was called to headquarters and accused of insubordination. Martin retracted his statement.[92]

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[91] **Ibid., 6:3009-3012.**

[92] **Ibid., 4:915-916**,

Colonel Hoff's testimony noted that division hospitals were supposed to be movable to follow troops on a campaign. He stated that the capacity of each division hospital was 200 men. He told the commission that at one time the Second Division Hospital had more than 500 patients and that of the First Division more than 300 patients. He observed that one of the greatest problems the Third Corps experienced was the lack of trained nurses. He commented that the First Division had fewer typhoid patients than the Second until near the end of their service at Camp Thomas, when both were about equal. Hoff observed that the typhoid in the Second Division seemed to have originated in the 1st Mississippi and several weeks elapsed before it appeared in the First Division. Dr. Conner asked if trained female nurses could have been gotten to serve in the hospitals, and Hoff stated they certainly could have been.[93]

The testimony of the doctors makes it clear that typhoid was beginning to spread before the departure of the First Corps in July. Evidently, the commanding general and his chief medical officer did not want rumors of typhoid spread. The testimony noted that requests for supplies were made, and sometimes honored, sometimes not. The Second Division Hospital had physical problems, but also numerous changes in command. The quality of nurses in that hospital was not good.[94]

Officers added additional testimony. Colonel James Perry Fyffe commanded the 3d Tennessee Volunteer Infantry. His unit arrived at Camp Thomas on May 24. He testified that the regiment had one surgeon, one hospital steward and one orderly until

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[93] **Ibid., 3:263-266, 272**.

[94] **TCR, 1:8,16-17,20.22,26,27-29,37-38,41.**

recently. When asked about the condition of the sinks. Colonel Fyffe stated that the sinks were horrid, but denied that they had an odor. He commented that it was hard to find room to dig new sinks. Fyffe told the commission that men under arrest went out every day and placed two inches of dirt on top of the sinks. He said that the largest number of men he had sick at any one time was about 150. The regimental strength when it departed on September 5 was 1,293. Colonel Fyffe said that piping water from Crawfish Springs would have been more effective, but supposed it was not done because of cost. [95]

Colonel Fyffe returned to testify the next day and corrected some of the information he had offered. The highest number sick at one time was corrected to 137. Fyffe also explained that his regiment was surrounded by the camps of six other regiments, at a distance he described as a stone's throw. He stated that sinks could not be dug any deeper than four feet. He complained about one neighboring regiment's sinks being too close and that regiment moved the sinks. When they did, his men were able to dig sinks six or seven feet deep on the site formerly occupied by that unit.[96]

Colonel William A. Pew commanded the 8th Massachusetts Volunteer Infantry. His regiment was in the Third Division, First Corps. He said his regiment was well equipped by the state of Massachusetts. Pew commented that he made his men move their tents periodically and tried to get them moved into open ground rather than the wooded terrain they occupied. He stated that he moved the unit around on the ground he occupied, but his surgeon could not find any terrain better than what they had. He

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[95] **Ibid., 3; 632-638, TCR, 1:185.**

[96] **Ibid., 638-641.**

said they were able to move part of the regiment into the open before they moved out of Camp Thomas. Colonel Pew said that his regiment had very few sick men. They arrived with their own medical supplies, and kept their regimental hospital in operation. At one point they attempted to send me to the division hospital, but were told the hospital was not ready to receive them, so they kept the men in the regimental hospital. Some of the men he sent to the division hospital as details had been trained by one of the surgeons. Pew said the hospital took all of the good men he had and probably some of the bad ones. Pew stated that quicklime was not available, and the regiment bought it in Chattanooga. He did not know why quicklime was not available.[97]

The testimony of two key figures closes this chapter, Surgeon General George Sternberg and Secretary of War Russell Alger. General Sternberg testified on December 8, 1898. He said that before the war, he asked the Secretary of War if he was justified in purchasing medical supplies considering the possibility of war. He stated he was told the policy was to wait. He stated that in 1893, Congress had reduced the number of surgeons he was allowed by 15, and did not restore these positions until just before the war. He observed that the reduction was over his protests and those of several general officers. Sternberg said he began the war with these 15 positions vacant. Sternberg told the committee than selection of volunteer surgeons was by his recommendation to the President. Sternberg said that as corps were formed he assigned Regular medical officers to the corps commanders to act as chief surgeons, brigade surgeons and division surgeons. He stated he believed about 41 Regular medical officers

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[97] Ibid., 1008-1012, TCR, 1:127-128.

were assigned in this way. He regretted that he did not have enough to fill all of the vacancies. Sternberg stated that he had about 650 contract surgeons and attempted to get professional endorsements to establish their qualifications. He commented that there were people who came well recommended, but who did not meet his expectations. He assigned officers to the corps commanders, who then assigned them as they thought best.[98]

General Sternberg made a significant comment when questioned about reports he had received. He stated that during the rush that ensued from the beginning of the war and continued up to the date of his testimony, he had been so overwhelmed with work that reading reports had been impossible. He had not heard of any surgeons being discharged on grounds of incompetence. He said volunteer surgeons were appointed by boards in each state, composed of one Regular Army doctor and two civilian physicians appointed by the governors of the states. [99]

The commission discussed the issue of regimental and division hospitals. Sternberg noted that division hospitals were supposed to move with their divisions and were to be under the control of the division commanders. He observed that he had created general hospitals, the Sternberg, Sanger and Leiter hospitals. The Leiter had been organized as a general hospital and the Sternberg and Sanger hospitals created as division hospitals and later converted to general hospitals. Sternberg was asked how to control a typhoid outbreak and he replied absolute camp sanitation, perfect policing,

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[98] Ibid., 6:2812-2815.

[99] Ibid., 6: 2816.

isolation of patients and disinfecting of all excreta. He stated it was the responsibility of the medical officer to recommend to the line officer measures to carry out sanitation, but the line officer could decide whether or not to do it. When the commission asked about the diagnosis of typhoid, Sternberg replied that it was not easy, and incorrect diagnoses were common in civil and military medical practice. Sternberg stated that Army medical officers were informed about the Widal test, but the test had been introduced so recently that the medical profession in general had not used it.[100]

The commission ended its discussion with General Sternberg by asking him if he had done all in his power to prevent disease, and he said he had. They asked him how he learned about the decision to concentrate troops at Camp Thomas and he said from newspaper articles. He observed that he would not have recommended such a concentration. He was asked if such concentration would cause disease, and he responded that it would unless the camp was provided with a sewer system, or if camp sites were abandoned when they became foul. The commission asked if he could prevent disease in such a large group, and he said he could with proper methods of sanitation. Finally, Sternberg stated he was recommending that the Medical Department be expanded to match the increased size of the Army. [101]

Secretary of War Russell Alger appeared before the Dodge Commission on January 26, 1899. He was treated respectfully by the members. General Beaver asked if he would object to being addressed as General, and Alger stated he preferred that form

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[100] **Ibid., 6:2820-2822.**

[101] **Ibid., 6:2843-2848**.

of address. Early in the questioning, Alger was asked if taking a large number of officers from the Inspector General's office decreased its efficiency. Alger stated that it was felt there were sufficient men left to do the work. Alger was asked if General Breckinridge's being given a command was at his request or the request of the (War) Department. He stated that it was not at the request of the Department. Later testimony developed that Breckinridge was assigned at the request of General Miles. Alger was asked about his order to General Miles directing him to inspect the mobilization camps. Captain Howell asked that the text of the order be read into the record. Alger stated that Miles came back to Alger's department and said he was in the habit of issuing such orders as these himself, essentially stating that he would not obey the order. The board asked if Miles conducted any inspections, and Alger replied that he had not.[102]

Alger was asked if he had any reports about shortages of medical supplies and medicine at Camp Thomas. He commented that he had heard from visitors who went to the camp, from newspaper stories and from requisitions sent by commanding officers. Alger said all requisitions were filled immediately. He went on to say that if problems were reported they were addressed without delay. Much of his other testimony was about supplies for the troops in Cuba.[103]

The testimony is voluminous, but makes it clear that hospitals were overcrowded, surgeons were overworked and nursing by men detailed to the hospital was less than efficient. The voices of different groups repeat similar stories about the outbreak.

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[102] **Ibid.,7: 3765-3768.**

[103] **Ibid., 7: 3770**.

Soldiers, officers, doctors, generals and civilians all told their stories. Commanders seemed to feel that they had done all that was possible. Everyone else disagreed with that assumption. The voices of the participants and testimony before the investigating bodies represent only a sample. Each of the groups could have been represented by more testimony. The next chapter will deal with the way Camp Thomas and the typhoid outbreak were remembered.

Chapter 7- Impact of the Outbreak

"The real objective of having an Army is to provide for war."

Elihu Root *Annual Report of the Secretary of War, 1899.*

"Preparedness is based on organization. National preparedness means far more than the mere organization of the army and navy."

Major General Leonard Wood, U.S.A.: *Our Military History: Its Facts and Fallacies*.[1]

This chapter examines the aftermath of the outbreak and its impact including the two major investigations that began as the troops were withdrawn from Camp Thomas. Very few of the units that served at Camp Thomas, except those who later moved to Cuba or Puerto Rico, created regimental histories. It is understandable that men who volunteered might not feel like commemorating their service within the continental United States, yet some did. The value of these documents is in their perspective. They include a cogent assessment about a failure in the supply system from Colonel Pew, commander of the 8th Massachusetts. "The whole matter sums itself up in this, that the regulations necessary for the conduct of a small army during a period of thirty-five years of peace, when built upon and expanded into those required for an army ten times as large in time of war, failed absolutely and went to pieces."[2]

In the years following the war, the Army emphasized sanitation in its training. The experience at Camp Thomas provided an example of the problems that

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[1]**Heinl, *Dictionary of Military and Naval Quotations,* 247-248.**

[2] **Harry E. Webber**, ***Twelve Months with the Eighth Mass. Infantry* (Salem, MA: Newcomb and Gauss, 1908), 82-83**.

could occur in a major mobilization for war. Both military and civilian researchers tried to create a vaccine against the disease. When the vaccine was created and proven successful in preventing the disease, the Department of the Army manufactured it and supplied it to the other services and to government departments.

Russell Alger, the Secretary of War, resigned from the McKinley cabinet. His successor, Elihu Root, carried out significant reorganization of the military establishment, using the Dodge Commission recommendations as one of his sources of information. In addition, Surgeon General Robert M. O`Reilly took the recommendations of the Typhoid Board as his guide in reorganizing the Army Medical Department.

The disease experience in the Army camps was cited frequently in public health publications in the period from the end of the war until 1914. Those who did not have direct knowledge of the outbreaks received information from public health bulletins, articles in popular media and studies in technical journals.

When the Army established the Office of the Chief of Military History during the late 1960s, one of the projects it undertook was a questionnaire sent to all surviving Spanish-American War veterans. The responses to the questionnaire by veterans then in their 80s or 90s, give a different perspective to the events at Camp Thomas. This historic memory adds the voices of participants remembering those things they found most significant.

The regimental histories capture the daily experiences of soldiers best of all. The 8th Massachusetts arrived well-prepared and with enough equipment and supplies to begin functioning at Camp Thomas. The regimental history notes that it was said

that the 8th was the first National Guard regiment ready to volunteer and one of the first to leave the state. Although it did not see combat, the 8th had several months of service in Cuba. The author of the history prevailed upon Major General J. P. Sanger to write the introduction.

General Sanger summarized the activities of the regiment from his first contact with them. Sanger had been assigned as a brigade commander in the First Division, First Corps and later, on June 28, as division commander of the Third Division, First Corps. The 8th Massachusetts arrived at Camp Thomas on May 19 and was assigned to the Third Division. Sanger saw them first about a month later, shortly before he assumed command of the Third Division. He noted that the regiment was the only volunteer unit he saw fully uniformed in khaki. Regular Army uniforms were blue, and khaki canvas uniforms were used by volunteer units. Sanger had a favorable impression of the regiment. Sanger spent most of the time between June 28 and November 26 as either brigade or division commander of the 8th. He rejoined them in Matanzas, Cuba in early January 1899 and remained with them until they left Cuba in early April 1899.[3]

After summarizing the service record of the 8th Massachusetts, Sanger discussed the events of the summer of 1898. He stated that between forty and sixty thousand men were crowded into an area not too large for a sedentary camp containing two divisions. He noted that between six and eight men were in each tent, and neither the camp nor the tents were ever moved prior to August 1. Sanger said

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[3] **Ibid., 9-10,12, 15-17.**

that when the Third Division left Camp Thomas on August 21, the division's sick roll contained twenty-nine officers and 1,237 enlisted men. The numbers of sick were part of a division strength of 337 officers and 9,464 enlisted. Sanger observed that this represented one officer out of every twelve and one enlisted man out of every eight. Sanger added a note stating that in August there was a total of 1, 568 cases of typhoid and he believed that there were as many more in the regiments. If that assumption were true, one man in every three in the division would have had typhoid. The 8th Massachusetts had a departure strength of 1,317 and was one of eight regiments in the division. Sanger blamed crowding, insufficient supplies, polluted water and lack of protection from heavy rains as elements leading to the typhoid outbreak.[4]

General Sanger stated that he felt powerless to prevent or improve conditions. He described his position as that of a figurehead, with little ability to make changes. He observed that the Spanish agreement to a protocol on August 12 made it certain that the soldiers of the Third Division would never see combat. The division left between 300 and 400 men in the hospital when it moved, and Sanger said that the men who left were so thoroughly impregnated with typhoid and with malarial fever that more cases were inevitable and the one thousand bed hospital at Camp Thomas would have needed a large extension to hold them.[5]

The division camp at Lexington was about 1000 acres. Sanger noted that the wooded area in Camp Thomas occupied by five divisions was 3,506 acres. Each

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[4] **Webber**, ***Twelve Months with the Eighth Mass. Infantry*, 18; TCR, 111-156.**

[5] **Ibid.,, 21-22.**

regiment was assigned fifty acres to allow separation of units from each other. The camps were laid out by the division engineer and a pure water supply secured. All sinks, both kitchen and latrines were dug, and placed within enclosures. The enclosures themselves were ditched to prevent water from running into the sinks. All tents were provided with floors. In addition to the measures taken in construction, the arriving units were subjected to a sanitary routine. A noncommissioned officer was placed in charge of each sink and given instruction by the regimental surgeon on the use of chloride of lime, quicklime crude petroleum and corrosive sublimates. Ample supplies of these chemicals were issued to the units. Chloride of lime was thrown into the sinks at least three times daily. The sink floors were scrubbed each day with corrosive sublimate. Both quicklime and crude petroleum were used in the sinks to disinfect them and also to keep flies away. Tents were moved weekly, and the former sites sprinkled with quicklime. Then floors were cleaned on the undersides with lime and on top with corrosive sublimate. Tent walls were raised and bedding and clothing aired daily. Straw in bed sacks was changed monthly. At that time, the old straw was burned and the sacks boiled. If a soldier went to the hospital, his bedding received this treatment immediately. Water barrels were cleaned every two weeks by burning the insides. All stable manure was removed from the camp daily and burned along with any other refuse. Crematories were built for brigades or regiments so that burning of refuse could be done expeditiously.[6]

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[6] **Ibid., 22-23.**

Additional sanitation measures required soldiers to bathe at least twice a week, keep hair and beards neatly trimmed, and drink boiled water from approved sources. Hucksters were forbidden to enter the camp and the sale or use of any food or drink items from other than military sources were not allowed. A division sanitary inspector was appointed and toured each regiment's camp daily with the regimental medical officer to inspect the police of the camp and correct any violations found. There were no regimental hospitals and sick men were moved to the division hospital. When they arrived at the hospital, their clothing was removed and disinfected and if the case appeared suspicious, the patients were sent to an isolation ward. The medical officer of each regiment accompanied the ward physician on his daily rounds and they determined whether men should be released back to duty. Unless isolated for possible contamination, soldiers from each regiment were placed together. Visits were limited to commanding officers, chaplains and immediate family members.[7]

The strict sanitary regime made a difference and while initially sick rolls of the division rose, within a month the disease level began to drop. By the time the division moved to Georgia in November, there were no typhoid cases in its ranks. The sick were left behind and Sanger stated that from then on, there were no new cases of typhoid reported. He observed that the 8th Massachusetts was well disciplined and Colonel Pew and his officers complied readily with the orders given. Sanger closed his commentary about disease by noting that few National Guard or volunteer units could be assembled at any time without the possibility of having at least one soldier with

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[7] **Ibid., 24-25.**

typhoid. He noted thatthe feces and urine of such a soldier could rapidly infect others. Strict compliance with sanitation rules was necessary to prevent disease.[8]

Sanger wrote his commentary some years after the war, but it is nonetheless an important summary. Every step taken reflected the conclusions of the Typhoid Board. The division addressed crowding, poor latrines, failure to disinfect sinks, clothing, tentage and bedding and failure to move the camp sites. Furthermore, there was a well-organized system of discipline to insure that measures were taken to keep effective sanitation.

General Sanger's opening comments were followed by a chronological account of the mobilization. The regiment arrived at Camp Thomas on May 20 and was assigned to the Second Brigade, Third Division, First Army Corps. The camp site they occupied was in the southeastern corner of the battlefield park. It was in a lightly wooded area along the Alexander Bridge Road. The 8th Massachusetts had the longest camp front of any regiment at Camp Thomas and the author of its history claimed this contributed to the better health of the unit. The Massachusetts troops did not use the water from the pipeline, but hauled water daily from Blue Spring. An interesting statistic appears in the account of regimental transportation. Each regiment received a total of one hundred and eight mules to haul the twenty-seven wagons it was issued. There were a total of forty-five infantry regiments and three cavalry regiments at Camp Thomas. If all received the same issue of mules, the total would have exceeded

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[8] Ibid., 25-26.

five thousand. This estimate does not include the wagons used by the artillery brigade, which also would have horse teams to haul the artillery pieces.[9]

Personal sanitation was another issue addressed by the soldiers of the 8th. Officers issued orders that everyone was to bathe and that inspections would be held to make sure that the orders were obeyed. The first soldier found not to have bathed was stripped and escorted to the pump by a detail of sergeants carrying brushes. The sergeants were also naked and the parade through camp drew many spectators from the regiment. The man was thoroughly washed and according to the history, no other soldier ever failed the washing inspection.[10]

The history devoted a chapter to sickness at Chickamauga. The prevailing diseases were diarrhea, dysentery and typhoid. Statistics noted that one in every five men had the disease. The Massachusetts regiments were well equipped for National Guard units, but had no experience in preparing food in the field. At their summer encampments the men had been fed by caterers. They lacked experience in living under field conditions. Before the transportation was issued, the 8th requisitioned barrels to carry water from the spring. The chief quartermaster insisted that there were sufficient barrels already on hand in the regiments and refused to issue more. Colonel Pew complained to the Inspector General.[11]

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[9] Ibid., 60-62.

[10] Ibid., 65.

[11] Ibid., 82-83.

An interesting summary of the conditions at the Third Division Hospital noted inadequate accommodations, lack of medicine, food and training for nurses detailed from regiments. The hospital area was dirty as were the areas around it. The services were disorganized, without discipline and the soldiers were demoralized.[12]

General Sanger took control and reorganized the hospital. An inspection report noted supplies were not available to regimental hospitals, even though they were on hand in the depot. The administration of the Medical Department as a whole was characterized as a dismal failure. Regimental officers bought supplies from their own pockets and aid societies also provided support. The hospitals lacked cots, blankets, sheets and pillows. The historian commented that the officers of the 8th Massachusetts worked with the doctors to combat diseases. Colonel Pew called the regiment together after evening parade before typhoid became widespread and explained the nature of the disease and encouraged the men to keep the camp clean, drink only boiled water and cover excreta.[13]

An interesting event demonstrated that even with instruction, supposedly informed soldiers took foolish chances. A detail of soldiers described as intelligent college men were placed on an outpost near the banks of Chickamauga Creek. They drew their water from a nearby spring. A rainstorm caused the creek to overflow and submerged the spring, When the water receded, the water of the spring was covered with a layer of slime. The soldiers decided that bad germs floated, and on the basis of

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[12] **Ibid., 84.**

[13] **Ibid., 84-86.**

that assumption decided that a canteen sealed by holding a thumb over its mouth and pushed to the bottom of the spring, filled, covered with the thumb again and brought to the surface would be safe to drink. All of the soldiers of the outpost did this, and all contracted typhoid fever.[14]

Despite the best efforts of the soldiers of the 8th Massachusetts, the disease spread from other regiments. Flies were everywhere, mosquitos were also common and the officers of the regiment discovered a way to protect against them. They had seen olive oil used to seal flasks of wine, and decided to place oil on the surface of standing water to seal it and prevent larvae from hatching. The experiment worked and the historian stated that the practice spread throughout the First and Third Corps and became widespread throughout the country.[15]

A final note was struck while the regiment was stationed in Lexington. Secretary of War Alger visited the camp, spoke with the officers and complimented the regiment on its efforts in combating disease at Chickamauga. Alger had seen a report made by Inspector General's office that stated the 8th Massachusetts was the only regiment in the park that the inspector was sure had complied with sanitary regulations.[16]

The regimental history of the Third United States Volunteer Cavalry, "Grigsby's Cowboys" began with political maneuvering to get the unit established.

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[14] **Ibid., 87-88.**

[15] **Ibid., 89-90.**

[16] **Ibid., 105-106.**

Melvin Grigsby served as the State Attorney General of South Dakota. Regimental adjutant Otto L. Sues wrote the history. In March 1898, Grigsby wrote to the Secretary of War tendering his services and offering to form a regiment of cowboys. He received a polite, but non-commital reply from Adjutant General Henry Corbin and decided he needed to go to Washington to push his case. Senator Francis E. Warren of Wyoming had presented legislation for the formation of one regiment of cowboys by Colonel Jay L. Torrey. Grigsby got the bill changed to include his language allowing the Secretary of War to form units with special qualifications. The bill was slightly amended on the House floor with the addition of the words "not to exceed three thousand men" and it became law on April 22, 1898. Since a regiment had a normal strength of one thousand men, this meant that three cavalry regiments could be formed. On April 28, Secretary Alger issued a memorandum forming the three regiments and designating their commanders. The First Regiment would be commanded by Leonard Wood, the Second by Judge Torrey of Wyoming and the Third by Melvin Grigsby. The regiment was mustered in by May 23, 1898. There were to be twelve troops in the regiment, and these were apportioned among the states with South Dakota to have five troops, Montana four troops, North Dakota two troops and Nebraska one troop.[17]

The regiment assembled at Camp Thomas and was at full strength by June 1 and suffered its first death on June 13 when Herbert Laurence of Troop E died of

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[17] **Sues, *Grigsby's Cowboys*, 2-6, 12,14. Cavalry regiments were composed of squadrons rather than battalions and troops rather than companies**.

typhoid fever. Sues commented that the hot weather at Chickamauga was trying for the men. The regiment drilled for several hours each day.[18]

Politicians worked actively to make sure the units from their states would be assigned to the campaigns in Cuba and Puerto Rico. Sues commented that the legislative delegations of four states were working to get the regiment into action. Grigsby made a formal request for the unit to be included. Sues noted that General Brooke liked the unit, but was not permitted to select the units to be included in his corps for the Puerto Rico operation.[19]

The typhoid outbreak was particularly virulent in Grigsby's Cowboys. Sues stated that the camp site in June and July was unhealthy, especially with the heavy rain during that period. On July 30, the regiment moved to a new location in an open area. Although it was hotter during the day, the camp was more pleasant in the evening and men got restful sleep. The regimental sick report did not increase after the move, but Sues commented that many men were in the hospital and some were being cared for by private families in Chattanooga. This is a valuable datum, since it suggests that those treated privately might not appear on official reports, Between August 25 and 30 one hundred and fifty men went on sick furlough. The regimental strength on arrival had been 1004 men, which means that 15 percent of the unit was furloughed.[20]

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[18] Ibid., 36-38.

[19] Ibid., 40-44.

[20] Ibid., 45.; TCR, 1:270.

Because of the way the regiment was constituted, the regimental history gives accounts of each of the twelve troops. Some notable comments are found in these accounts.

Troop C was from South Dakota and although its men suffered from typhoid, there were no deaths from the disease. Each of the other eleven troops had at least one death. Major Stewart of Troop E commanded the Second Squadron. He was confined to his quarters on August 8 with typhoid fever, and given twenty-five days sick leave. He went to Chicago for treatment at the Presbyterian Hospital. Lieutenant Charles Hall of Troop F was notable as having been "one of the few who did not succumb to typhoid fever." This comment seems to indicate that almost everyone else had gotten the fever. The regiment had a total of 270 cases of typhoid fever, about 26 percent of its total strength. Thirteen of the twenty-one deaths in the Third U.S. Volunteer Cavalry were from typhoid fever.[21]

The experience gained by the Army at Camp Thomas had immediate effects. General Sanger's introduction to the 8th Massachusetts history noted that when the regiment moved to Lexington in August 1898, officers made significant efforts to ensure sanitary discipline. The efforts detailed by Sanger closely paralleled the recommendations of the Typhoid Board. [22]

In June 1898, the Army published a manual for the Medical Department. It listed duties of medical officers and provided guidance for administration and supply.

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[21] **Ibid., 154, 208, 297, 360-361; TCR 1:270.**

[22] **Webber, *Twelve Months with the 8th Mass.*, 21-26.**

In January 1899, the Army published another manual for the Medical Department that differed from the earlier one in the addition of a section in which all General Orders and Circulars from the War Department that related to the Medical Department were reproduced. The dates and subjects of some of these orders and circulars make it clear that the Medical Department was responding to the items cited in the reports of the Typhoid Board and the Dodge Commission. General Order 151, issued on September 22 stated that two medical officers, one of whom was to be the regimental surgeon, were to remain with each volunteer regiment. General Oder 178, issued on November 8, described the purpose of a regimental hospital to be emergency care, and sais that patients who were seriously ill should be transferred promptly to a brigade of division hospital. [23]

Surgeon General Sternberg had issued Circular No. 1 in April 1898 and it listed a number of steps to be taken to ensure that sanitation was adequate, even warning of the danger of flies spreading diseases. Circular No. 5, issued on August 8 noted that the incidence of typhoid fever in the assembly camps made it evident that the guidance in Circular No. 1 had not been followed. In addition to following the steps for better camp police and the disposal of wastes, commanders were also urged to move their camps frequently. Circular No. 7 issued on September 5, 1898 said that antiseptics or quicklime should be used to treat organic material and were also useful in treating typhoid and cholera excreta. Clearly the Medical Department was aware of

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[23] ***Manual for the Medical Department*** **1898 (Washington, D.C.: Office of the Surgeon General), 4;** ***Manual for the Medical Department*** **1899 (Washington, D.C.: Office of the Surgeon General), 146-147,148-149.**

the issues and made the steps a part of Army Medical Department doctrine by including them in a manual published a little more than six months after its predecessor.[24]

The report of the Surgeon General for the Fiscal Year ending June 30, 1898 includes information about the appointment of medical officers and contract surgeons. General Sternberg noted that this report was normally rendered some time in September, but he stated that it was not possible to present a full and complete report of the recent important events until all reports from regiments and field and general hospitals had been gathered, tabulated and studied. Sternberg stated that he wished to give a general overview of the occurrences and the work of the Medical Department. He discussed the organization of the Medical Department, noting that a very small portion of the volunteer medical officers had military medical experience and this impaired the efficiency of the department at the outset. He stated that many of these doctors demonstrated great aptitude and speedily became of value as administrative and sanitary officers. Sternberg noted that more than 650 contract surgeons were engaged, and he endeavored as far as possible to obtain satisfactory professional indorsement before authorizing their contracts.[25]

The Surgeon General noted that Congress had not made provision for a Hospital Corps for the volunteer regiments. The Secretary of War was allowed to enlist as many privates as might be required into the Hospital Corps. In May 1898,

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[24] **Ibid., 157, 158-159.**

[25] **U.S. Congress, House. "Report of the Surgeon-General."** ***Annual Reports of the War Department*** **. 56th Cong., 1st session, 1899. H. Doc.2, 100-101.**

commanders in the field were authorized to transfer volunteers into the Regular Army Hospital Corps on the recommendation of the chief surgeon. The lack of volunteer hospital corps soldiers meant that care would be given by men detailed from the regiments.[26]

Sternberg included a section entitled "The Health of the Troops." He observed that the camp sites had been characterized as the cause of the illnesses that developed. Sternberg agreed that some sites had rock too close to the surface or clay interfering with the digging of satisfactory sinks. He said that the sites were not the problem, but rather the manner in which they were occupied. He commented that the sites were too crowded with regiments occupying space appropriate for a battalion. Sternberg noted that he had issued Circular No. 1 on April 25 listing the proper actions to be taken for sanitation. He said that the line and medical officers had insufficient experience of living in the field. Sternberg stated that the conditions were not made known until inspectors reported to the Secretary of War after visiting each camp. He said that typhoid was found to be spread by flies and pointed out that he had mentioned control of flies in his circular. The Surgeon General stated that he had issued a second circular on May 31 explaining the use of filters to provide pure water for the troops. Sternberg's comments on the water supply made it clear that at that point he believed that polluted water was the reason typhoid spread through the encampments.[27]

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[26] **Ibid., 101.**

[27] **Ibid., 109-114.**

General Sternberg included two detailed reports on sanitation at Camp Thomas. The first was from Lieutenant Colonel Rush Huidekoper, Chief Surgeon of First Corps. It detailed the chronology of the corps' formation, listed all of the units and described camp conditions. Huidekoper included reports from all three divisions in the corps stating the number of typhoid cases on June 30. The First Division had 69 cases, the Second Division 7 cases and the Third Division 28 cases. [28]

The second report was made on August 7 by Lieutenant Colonel A.A. Woodhull, Deputy Surgeon General. Woodhull noted that his orders to conduct this inspection were dated July 12. Woodhull said that there were six factors influencing disease at Camp Thomas. These were: 1)site, 2) water supply, 3)character of troops, 4)climate, 5)shelter and occupancy of camp and 6)employment and control. He stated that the factors were interdependent. He described the site, noting that "low woods" were not suitable for an encampment and commenting on rock and clay as problems in digging sinks. Woodhull also described the sources of water. He noted that filters were not working and men were drinking from surface springs, an undesirable practice. Many of the troops were immature and most were sadly deficient in field sanitation. Woodhull noted that the heavy rains made camps in the "low woods" damp and tentage wet. He observed that all units lived in overcrowded conditions, and camp sites, with few exceptions had never been moved. He commented that animal wastes added to the overall pollution.[29]

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[28] **Ibid., 163-171.**

[29] **Ibid., 173-176.**

Woodhull concluded that the troops at Camp Thomas were not suffering from a special infection of water or malarious conditions. He stated they experienced insufficient water, crowd poisoning, insufficient and imperfect shelter, soil pollution and a very great lack of facilities for the disposal of refuse. Also there were the indirect consequences of ignorance of camp sanitation on the part of practically all of the men and nearly all of the officers. He said nearly all of the medical officers were overworked.[30]

Woodhull's recommendations were to move all of the regiments, provide wooden floors for tents, replace leaky tentage, reduce tent occupancy and increase camp site space, provide quicklime for treatment of wastes, burn refuse, send the troops on field marches periodically. He specifically stated that the Third U.S. Volunteer Cavalry should be removed, and arrangements made for care of they're sick. Woodhull said the hospitals should be increased in size and he recommended that a single medical officer be assigned to have the sole duty of promptly processing men for discharge.[31]

The timing of Colonel Woodhull's report must be noted. He was assigned to inspect on July 12 and sent his report on August 7. Removal of troops was announced on August 12. By the time his report was received in Washington, it had begun to become irrelevant.

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[30] **Ibid., 180.**

[31] **Ibid., 181**.

The outbreak affected the Army's training. Between 1886 and 1890, Woodhull, then a Major, taught military hygiene at the U.S. Infantry and Cavalry School at Fort Leavenworth. His lectures were later published as *Notes on Military Hygiene for Officers of the Line.* The work remained in use at the school through the early years of the twentieth century and four editions were published, the last in 1909. It was also used as the principal text for the military hygiene course at West Point. Hygiene was not afforded a great deal of attention when the Leavenworth school was reopened in 1902. The school was initially designated the General Service and Staff college and later evolved into two separate institutions; the Infantry and Cavalry School, later called the School of the Line and the Army Staff College. In 1908, a full time instructor in military hygiene was added to the staff.[32]

In 1902, the Army made a revision of the curriculum at West Point adding military hygiene as a subject for instruction. Later decisions resulted in the establishment of a Department of Military Hygiene in 1905. The comments made by Walter Reed in the Typhoid Board Report led to this change. Military authorities realized that sanitation was necessary for maintaining military effectiveness. They also understood that if changes were not made, the disease pattern of the Spanish-American War would repeat in a future conflict. Reed recommended that military hygiene be taught in all military schools. In 1899, Victor Vaughan told the audience at the annual convention of the Association of American Physicians that it was "a crime and a shame that the line officers of our Regular Army have no education as to

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[32] **Cirillo, *Bullets and Bacilli,* 125-128.**

sanitary knowledge." Surgeon General O`Reilly made a recommendation in August 1905 that military hygiene be added to the curriculum at West Point and the chief surgeon of the post would be the instructor of this course. Woodhull's earlier text was replaced by *Elements of Military Hygiene Especially Arranged for Officers and Men of the Line* by Major Percy M. Ashburn, a work was influenced by the material in the Typhoid Board report.[33]

If the disease experience of the United States Army was not sufficient to foster changes, reformers could also point to the even more disastrous experience of the British Army in the Boer War. The British deployed 208,226 men in Africa and suffered 57,684 cases of typhoid fever. This is a 27.7 percent rate. Even more shocking was the fact that the death rate for the British was 13.9 percent compared with the American rate of 7.9 percent. The British had 8,022 deaths while the Americans suffered 1,590.[34]

The British tested an antityphoid inoculation developed by Dr. Almroth Wright. It was offered to soldiers on board transports heading to South Africa. When the first soldiers were inoculated, they suffered from fever, headache, pain at the site of inoculation and overall malaise. These side effects were evident to the other soldiers and ultimately 95 per cent of those offered the vaccine declined it. Only 11.9 per cent of British medical corps members accepted the vaccine. Despite the side effects, the

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[33] **Ibid., 129-134.**

[34] **Ibid., 139.**

death rate for those not inoculated was 2.4 times higher than for those who had accepted the vaccine.[35]

A vaccine is defined as a suspension of attenuated live microorganisms (attenuated live vaccine) or killed microorganisms (dead vaccine), administered for prevention, amelioration or treatment of infectious diseases. Later studies validated the benefits of Dr. Wright's vaccine (a dead vaccine)and it was put into use in the British Army. U.S. Army Surgeon General Robert M. O'Reilly reported in 1908 that he was investigating the merit of the vaccine as prophylaxis. He sent Captain Frederick Fuller Russell to Europe to investigate the use of vaccine by European armies. After Fuller returned, O'Reilly established a board of officers to make recommendations regarding the vaccine. The board included Dr. Victor C. Vaughan and five other members of the Medical Reserve Corps along with Captain Russell. The board reported that vaccination against typhoid was useful and harmless, and would be valuable in reducing the number of typhoid cases in the Army. Russell, who was a professor at the Army Medical School, was promoted to Major and began to inoculate every soldier in the U.S. Army. In 1909, when vaccination began there were 173 cases; by 1912 there were only nine, with just a single death.[36]

It must be noted that the Army's work to inoculate every soldier was not the only factor in the reduction of typhoid cases. The improvements in sanitary conditions

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[35] **Ibid., 142.**

[36] **http://medical-dictionary.the freedictionary.com/p/vaccine, August 28, 2007;Ibid.,124-125; Bayne-Jones, *Evolution of Preventive Medicine, 140-143.* Hume, *Victories of Army Medicine, 102-103.***

throughout the United Stated certainly contributed, as well as the improvements in post and field sanitation carried out by the Army. However, the Army's experience remained remarkably better than that of the civilian population, By 1915, the Army's mortality rate from typhoid was 3.24 cases per hundred thousand, and civilian society did not achieve similar results until the 1930s. In 1935, 1936 and 1937, the civilian rate reached 2.4 per hundred thousand.[37]

Why did the Army have such good experience, and why did the civilian population suffer such rates of disease for so much longer? From the Army's perspective, it had control of its population. Orders were issued that every soldier would be vaccinated, and it was done. If cases occurred, they were diagnosed and if typhoid was found, the patients were isolated. Local and state governments were reluctant to spend money on laboratories for production of vaccines or vaccination programs just as they had resisted the construction of sewers and the purification of water. One scholar commented that the vaccination of large numbers of men during World War I and the success in preventing disease led governments to make wider use of vaccination. Better reporting of typhoid cases and understanding the role of carriers also contributed to reducing typhoid rates. When there were large-scale typhoid outbreaks like those in New York's Palisades Interstate Park in 1924-25 or the infection of the Newark water supply in 1898, bacteriological examinations could identify the sources of infection.[38]

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[37] **Hume**, ***Victories of Army Medicine,* 104.**

[38] **Duffy,** ***A History of Public Health in New York City*****, 566; Galishoff**, ***Safeguarding the Public Health, 45-46.***

The Army Medical School continued to be a center for medical research. Given Sternberg's reputation and the successes of Reed and others, this is not surprising. Sternberg was self-taught in bacteriology, as there were no bacteriological laboratories in the United States when he began and the key advances in the field occurred in Europe. He continued his studies while stationed at several Army posts. He conducted work on cholera, yellow fever and septicemia, discovering the pneumococcus in 1881. After founding the Army Medical School, he influenced the course of research directly by lecturing on bacteriology, and indirectly by assigning officers like Reed, John Shaw Billing and Charles Smart as instructors. In addition to the faculty, he was able to draw upon medical researchers for lectures on the latest developments. The school focused on preventive medicine, environmental sanitation, microbial causes of diseases and scientific methods of prevention and control. Sternberg also established two boards of medical officers to study tropical diseases, one focusing on Cuba and the other on the Philippines. Major Carl Darnall at the Army Medical School devised a system for chlorinating water in 1910. Major William Lyster invented the Lyster bag which allowed chlorination of drinking water in the field by adding calcium hypochlorite to water in a canvas bag. From 1900 on, officers at the Army Medical School produced a number of books on preventive medicine.[39]

After both the Typhoid Board and the Dodge Commission completed their work, the Army began to function as an army of occupation in Cuba, Puerto Rico and the Philippines and President McKinley wanted to replace Secretary Alger with

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[39] Bayne-Jones, *Evolution of Preventive Medicine*, 118-121, 129-130, 143-146.

someone better suited to run a colonial administration. Secretary Alger was under increasing pressure to withdraw from McKinley's cabinet as his image as a spoilsman hurt the Republican Party. McKinley administered the Army through Adjutant General Corbin and the commanders in the field, ignoring both Alger and General Miles. Alger continued to run the War Department and told those who would listen that he would not quit under fire. Alger was eager to run for a Senate seat in Michigan. A conservative group headed by the current Senator, James McMillan was contending with an insurgent reform coalition. Alger believed the Senator would withdraw from the race and announced his candidacy. McMillan promptly announced his intention to run, placing Alger on the aide of the reform group. Alger thus had placed himself in the camp of McKinley's opponents. This afforded McKinley the opportunity to ask for Alger's resignation. After an angry meeting on July 19, Alger submitted his resignation, stating he would retire on the date chosen by the President. McKinley made the change effective August 1. Alger withdrew from the Michigan Senate race the next month.[40]

Alger wrote his memoirs, and in 1902, when Senator McMillan died, the governor of Michigan appointed Alger to serve out his remaining term. In 1903, Alger was elected to the Senate and he served there until his death in 1907. Despite the criticism directed at Alger, the War Department inherited by his successor, Elihu Root, had solved the issues of supply, sanitation and organization and was functioning smoothly. Of the 100,000 men on duty, about a third were deployed overseas. With a

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[40] **Cosmas, *Army for Empire,* 304-307.**

functioning machine in place, Root could utilize his administrative talents in reforming the system. Thousands of former soldiers returned to the National Guard with real military experience in camp and campaign. The civilian population became more informed of the realities of military life. [41]

The Progressive movement had developed in response to the need for reform in many parts of American society. In politics, reforms were needed to counter the effects of the spoils system. Inefficiency, corruption and economic injustice were among the targets of Progressive reformers. Progressive reforms included some aimed at improving the organization and operation of the military. Regular officers were angry that political appointees had been given responsibility and authority without any demonstrated capacity to perform the duties of their positions. A telling comment was made by Walter Reed. He was saddened by the inefficiency of the War Department and told a friend, "The Army Medical Corps has received a black eye because of the neglect and incompetence of men who did not really belong to it." Reed had sought a position of responsibility during the Spanish-American War, but was disappointed when men with political influence were given such positions.[42]

Root needed to conduct a reorganization of the War Department and the Army. Although he did not have military experience, he was able to draw upon years of reports and studies recommending changes. The popular interest aroused by several

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[41] **Ibid., 307-308.**

[42] **Faith Jaycox, *The Progressive Era* (New York: Facts On File, Inc., 2005), viii; Howard A. Kelly, *Walter Reed and Yellow Fever* (New York: McClure, Phillips and Co., 1906), 72-73.**

scandals during the Spanish-American War and the campaigns in the Philippines gave Root the base he needed to make changes. He read the eight volumes of testimony from the Dodge Commission report, noting problems in supplying equipment and food, the sanitation of the camps and the organization of the Army staff. Root learned that General Schofield had been extremely successful by acting as the Chief of Staff of the Army rather than as Commanding General. Root was also influenced by Emory Upton's work on the United States Army. He had it published as an official document and sent copies of the work to thirty-three newspaper and magazine editors. [43]

Upton had recommended a three-battalion formation within regiments. He also recommended that officers serve interchangeably in line and staff assignments. Upton said that examinations should be used to select those to be promoted. Perhaps most important, Upton had recommended the establishment of a general staff and the systematic and general expansion of military education. Root commented that the staff selected weapons and built fortifications without any input from the general in chief or the officers who might have to use them during war. The system in which the Secretary of War held control of all funds, and the staff operated independently caused conflict between the Commanding General and his superior. General Nelson Miles had been in a state of continual disagreement with Secretary Alger, and President McKinley had found it necessary to ignore both of them and run the Army through the Adjutant General. [44]

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[43] **Philip C. Jessup, *Elihu Roo.* 2 vols. (New York: Dodd, Mead and Company, 1938.) I:240-242.**

[44] **Ibid., 243.**

Root attempted to work with Miles. He asked for his input on the best officers to assign to command volunteer regiments being raised for service in the Philippines. He told Miles that he wanted the matter kept absolutely secret until appointments were made. Miles responded with a list of recommendations based purely on seniority. If they were implemented, the new regiments would be commanded and staffed by older officers not capable of the physical exertion needed for an active campaign in the tropics. The next morning the issue appeared in the newspapers. Root was convinced that Miles was untrustworthy, and he ceased efforts to work with him.[45]

Miles continued to use political influence to oppose the plans of the new Secretary. An intemperate man, he made a speech in June 1901 suggesting that Theodore Roosevelt had not been at San Juan Hill. On September 6, 1901, President McKinley was assassinated, and Vice-President Theodore Roosevelt assumed the Presidency. In March of 1902, the new President wrote a confidential letter to Root concerning Miles. Roosevelt noted that Miles made it evident that he did not desire to make any changes in the Army. He commented that both Root and President McKinley had told him that this had been the case in their dealings with Miles as well. The President noted that Miles had approached him while he was governor of New York proposing that they form a national ticket with Miles for President and Roosevelt as Vice-President. Later President McKinley told Roosevelt that Miles had offered himself as the vice-presidential nominee with McKinley. [46]

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[45] **Ibid., 244.**

[46] **Ibid., 245; Bean, *Walter Reed,* 173.**

In December 1901, the United States Navy court of inquiry into the conduct of Admiral Winfield S. Schley at the Battle of Santiago found Schley guilty of errors in judgment while maneuvering the fleet. General Miles granted an interview to the Associated Press and commented that he had no sympathy with efforts to destroy the honor of an office under such circumstances. Root and Roosevelt realized that Miles had violated Army regulations. Root wrote Miles asking if he had in fact made the statement. Miles replied that he had simply expressed an opinion. Root then issued an official reprimand, citing the regulations which stated that military men were prohibited from deliberations or discussions conveying either praise or censure toward others in the military. Miles went to the President who also reprimanded him. On August 8, 1903, Miles reached retirement age and Root issued an order transferring him to the retired list. One of the barriers to change had been removed.[47]

Root proposed changes to the assignment of officers to staff departments. Permanent assignments were to be abolished and the practice of increasing rank and pay with assignment to the staff would be eliminated. Officers would be assigned to staff positions for short periods and then returned for service with troops. But the major action in Root's reorganization was the elimination of the title of Commanding General; the position would now be Chief of Staff. Root worked to get political support for these changes. His annual report in 1903 was carefully drafted, with two major propositions. First, the real object of having an Army is to provide for war, and second, the regular army of the United States would probably never be the whole

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[47] **Ibid., 247.**

machine with which any war would be fought. He said the first proposition had not been respected in practice and the army was not prepared or being prepared for war. Root listed four steps, not advocating the establishment of a general staff, even though the steps would make it clear that such a staff would be needed. Root used his relationships with Congressmen and Senators as well as members of the press, to gain and maintain support for his proposed legislation. In February 1903, a bill establishing a General Staff Corps was passed. The Chief of Staff position was also created. The Army War College had been created in 1901.[48]

Root also worked on the issue of improving the National Guard and making it a military reserve available to supplement the regular army in case of war. He recognized that he needed to draft legislation that would create a permanent and clearly defined place for the National Guard in the national reserve system. He worked closely with a committee headed by General Dick of the National Guard Association. He also worked with members of the legislature and editors of newspapers and magazines to build a base of support. The Militia Act of 1903 was passed on January 21.[49]

The Militia Act divided the state soldiery into a Reserve Militia and an Organized Militia. The Organized Militia received federal allotments. It could be mobilized by the President for terms up to nine months to repel an invasion, suppress rebellion or enforce federal law. The law specified the conditions under which such a

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[48] **Ibid., 252-262.**

[49] **Ibid., 265-268.**

call could be issued. The National Guard was thus recognized as a part of the national military resource.[50]

The outbreak of typhoid was only one of the many reasons behind military training and reorganization. But the outbreak served as a ready reference for sanitarians trying to improve public health. A selection of quotes from the early years of the twentieth century show that the outbreak was used as an example of the impact of typhoid.

In 1906, Major Jefferson Randolph Kean wrote a book that received the Seaman Prize of the Association of Military Surgeons. It was entitled *The Prevention of Disease in the Army and the Best Method of Accomplishing that Result.* Kean stated that it was not possible to make an army healthy by issuing an order. On the second and third pages of his essay, he cited General Sternberg's Circular No. 1. and said if the sanitary rules in that circular and a later General Order had been carefully followed, the camps would have been healthy. The country would have been saved more than 20,000 cases of typhoid in the Army and more than 2,000 deaths. Later, Kean noted the finding of the Typhoid Board that military surgeons correctly diagnosed only about half the cases presented to them. He commented that typhoid was the most formidable infectious disease with which the military had to contend.[51]

Kean's comments lead to the issue of why the disease spread. The sanitary failings of individual soldiers were certainly one reason. If, as the Typhoid Board noted

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[50] Cooper, *The Rise of the National Guard,* 109.

[51] Jefferson R. Kean, *The Prevention of Disease in the Army and the Best Method of Accomplishing that Result* (Carlisle, PA: Association of Military Surgeons, 1906), 2-3, 9.

in its findings, a single soldier could infect every latrine in a regiment and regiments were located close to each other, it follows that even regiments like the 8th Massachusetts would become infected by disease carried to their encampment from the latrines of nearby units. Commanders focused on military training, and did not pay enough attention to making sure that wastes were covered. The role of flies as a spreader of disease was suspected, but units did not take actions to prevent flies reaching wastes and food. Medical officers were at fault for assuming that the disease was malaria and treating soldiers with quinine. The medical profession was largely ignorant of the Widal test, and there were no microscopes available to make the test even if the doctors know how to perform it. The Army was at fault for placing so many men in one place, and failing to move the encampments when it became evident that troops would remain at Camp Thomas for a longer period than originally anticipated.

The role of flies as an agent spreading disease is highlighted by an informative pamphlet published by the Merchants' Association of New York in April 1909. The title, "The House-fly at the Bar: Indictment, Guilty or Not Guilty," made it clear that flies were a danger. The Association's Committee on Water Pollution sent letters to health officers, physicians and sanitarians in the United States and Canada asking for their experience with disease transmission by flies. The pamphlet cited sixty-three letters from city and state authorities. The great majority of these stated that flies were spreaders of disease. Two made specific reference to the outbreak in military camps in 1898. The pamphlet also reproduced a paper written by Daniel Jackson entitled "The Transmission of Disease by Flies." Jackson cited an article by Surgeon General Sternberg in the June 1899 Philadelphia Medical Journal and also referred to the

Typhoid Board report. The report also reproduced a number of other articles on the role of flies in disease as well as posters used to combat the spread of flies.[52]

A textbook on public hygiene published in 1911 contains a section on Army and Navy Hygiene. The author, Dr. Thomas Blair, commented that conditions were thoroughly bad in the Spanish-American War. He stated he had seen enough to convince him that the best of family doctors was not worthwhile as a military sanitarian. Blair felt that there ought to be a system training civilian physicians for wartime service, perhaps run by a state board of health. The training would be strictly along federal army methods to ensure uniformity. [53]

In 1922, one of the authors of the Typhoid Board report wrote a textbook for physicians, medical students and health workers. Dr. Victor Vaughan was the primary author for the three volume work, *Epidemiology and Public Health*. Vaughan cited his early experiences with epidemic diseases on his father's farm in Missouri. He also referred to the lasting impression of the typhoid epidemic in army camps in 1898, and praised Dr. Reed and Dr. Shakespeare for their efforts on the Typhoid Commission.[54]

Dr. Vaughan contributed to a commemoration volume for the Panama Exposition in 1915. This work, published by the American Medical Association, contained seven chapters on disease, one on municipal sanitation and one on statistics. The diseases addressed were typhoid, syphilis, poliomyelitis, yellow fever and cancer.

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[52] **"House-fly at the Bar," Merchants' Association of New York, 7-30.**

[53] **Thomas Blair, *Public Hygiene* (Boston, MA: The Gorham Press, 1911), 255.**

[54] **Victor C. Vaughan, *Epidemiology and Public Health*.**

Vaughan wrote the opening chapter on infection and immunity. He discussed typhoid and the history of the disease. He cited the Civil War disease experience and noted the concept of typhomalarial fever, commenting later than the term had been proven to be a misnomer. Vaughan made reference to some of the findings of the Typhoid Board. He stated that the poor sanitary habits of American soldiers were not unique. He observed that typhoid had appeared in the German Army during the war with France. Vaughan also commented on the English and French experience in Afghanistan, Egypt and North Africa, pointing out that attempts by the European armies to provide pure water did not prevent typhoid, which was spread through human waste. [55]

The 1902-1903 Report of the State Board of Health in Kentucky made reference to the"distressing and fatal epidemic" in military camps in 1898. The report stated that flies had been identified as the source of disease spread when they landed on food with their feet and legs covered with the lime powder used to cover wastes in latrines. The state statistics for the year showed 13,305 cases of typhoid fever, with 1,579 deaths, clearly a serious problem. [56]

In 1917, the Army published *Medical War Manual No. 1, Sanitation for Medical Officers* by Lieutenant Colonel Edward B. Vedder. It represented the state of the art in military medical knowledge near the end of World War I. Nineteen years after the Spanish-American War, the United States Army had institutionalized the methods for

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[55] **Victor C. Vaughan, "Infection and Immunity", in *Commemoration Volume, Panama Exposition*, (Chicago, IL: American Medical Association, 1915), 42-50.**

[56] **Biennial Report of the State Board of Health Kentucky; 1902-03. (Louisville, KY: Geo. G. Fetter Printing Co., 1904.), 5,8.**

preventing disease in camps. The manual stated that all persons entering military service would be immunized against typhoid fever. It noted that the vaccine was manufactured exclusively at the Army Medical School, Washington, D.C. Records were to be kept of all military and civilian personnel who were vaccinated. If typhoid fever is suspected, the diagnosis must be confirmed by a blood culture. The manual notes that, after vaccination, the recipient would give a positive reaction to the Widal test for a period between six months and one year.[57]

The manual provided detailed instruction on construction of latrines and police of camp areas. Soldiers must bathe at least twice weekly and wash their hands after leaving the latrine and before each meal. After this description of soldiers' duties, the manual described the responsibilities of commanders and doctors. Police and sanitation and for the enforcement of sanitary regulations fell to commanders of all grades while the Division Surgeon was charged with supervision of the command's sanitation assisted by a sanitary inspector. Sanitary squads would be organized to purify water supplies, prevent mosquito and fly infestation, and conduct waste disposal and disinfection. Regimental surgeons would inspect each camp at least once daily and inform commanders of necessary corrections. If corrective measures were beyond the capability of the unit, the situation was to be reported to higher authority. Tents were to be kept clean and clothing, bedding and blankets exposed to sunlight daily. Tents had to be raised during the daytime and periodically furled and struck. All food and water were to be protected from dust, flies and the sun. Wastes would be

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[57] **Edward B. Vedder, *Medical War Manual No. 1, Sanitation for Medical Officers* (Philadelphia, Lea & Febiger, 1917.), 16-17.**

incinerated and latrine pits burned out daily. Urinal cans had to be burned out and disinfected with milk of lime. If water pollution was suspected, samples were to be tested by a field laboratory. The milk supply was to be protected by inspection of dairies. The manual also pointed out the need to avoid overcrowding and contact infections. Medical officers were to inspect tents and barracks to insure that adequate ventilation and space were provided.[58]

When the manual is examined in light of the problems found in the camps of the Spanish-American war, it seems clear that the lessons of sanitation had been learned and incorporated into Army regulations. The clear statement that sanitation is the responsibility of commanders at all levels is significant.

One element remains to be considered. There is extensive documentary material on governmental activities, inspections, testimony before boards and commissions and newspaper articles. The voices of the soldiers have been heard through these means. But there is an additional source which adds to the understanding of the outbreak. It is the memories of soldiers many years afterward, in response to a questionnaire sent out by the staff of the U.S. Army Military History Research Collection (USAMHRC). The Army did not have significant holdings in the library associated with the Army War College until 1966. Colonel George S. Pappas was the first director of the collection and began research into the history of the War College. He found a number of very old books in the library and asked the Commandant of the War College for space to store them and also for the authority to

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[58]Must **Ibid., 23-26, 43-46, 57-62**

seek out and acquire other rare books for the collection. The Chief of Military History supported Pappas' efforts and made available 30,000 books that had been culled from the holdings of the National War College. In June 1968, the Military History Research Collection began a survey of all surviving Spanish-American War veterans. From this survey, the Collection built its Spanish-American War holdings which have grown to more than 300 linear feet of documents and personal accounts. [59]

Responses to the survey are filed by unit. When veterans responded to the initial survey, a second, more detailed survey was sent. Responses to both surveys are filed together under the veteran's name. In some cases, the responses were submitted by adult children of the veterans who read the questions to the veterans and recorded their responses. In some cases, veterans died before receiving the second survey. The timing of the survey was serendipitous; men who had served in their late teens and early twenties in 1898 were in their eighties in 1968. Any significant delay in making the survey would have reduced the number of responses significantly.[60]

In March 1969, Charles Foxwood of the First Arkansas Volunteer Infantry submitted his response. He stated: "Medical knowledge was not as far advanced as it is today. Latrines were dug on a higher elevation than the camp. Many men died of

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[59] **James Barron Agnew, "USAMHRC - The Mother Lode for Military History" *Military Affairs* 39 (Oct., 1975):146-147.**

[60] **Information in this paragraph is from my research at USAMHRC.**

typhoid fever. Sanitation was very poor. The latrine was at the end of the company street and rain flooded the company street. We lost two men to typhoid. "[61]

Dave A. Hutchinson served as a Corporal in the Second Arkansas Volunteer Infantry. He responded to both survey questionnaires. In response to the question: What did you think of the medical and supply services in the Army? Hutchinson replied tersely, "Poor, very poor." Hutchinson provided a roster of the regiment and the names of the brigade and regimental commander. He also commented that the regimental surgeon was Major Horatio Wells and the assistant surgeons were Lieutenants King and Enders. He stated that the regiment lost 18 men at the Chickamauga hospital during July, August and September 1898.[62]

Howard Schoonover served in the 52d Iowa Volunteer Infantry. His September 1969 response to the question on medical services was more extensive than that of Hutchinson. Schoonover said they were: "Very inadequate. I was told by our head surgeon, Major Edgar A. C. Bergen that our medical supply when we left Camp McKinley in Des Moines amounted less than $2.00 value in quinine and blue pills." In response to a question on health, Schoonover replied: "Health was excellent for the first 30 days. After 30 days, it began to deteriorate and when it became apparent that the regiment was not going to be able to get to the front, it seemed to have an effect upon all of the men in a terrible letdown in health and activity of all kinds. The latter part of August, we had only two squads in a company of 100 men who were able to

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[61] *Spanish-American War Veterans and Widows Survey*, U.S. Army Military History Institute, Carlisle Barracks, Pa., Box 9.

[62] Ibid., Box 10.

answer drill call." Schoonover also donated a map of Chickamauga Park and a regimental roster.[63]

Two responses from the 21st Kansas Volunteer Infantry were quite succinct. Frank O. Dean said that medical and supply services were: "Very Poor" and health of his unit was: "Poor." H.H. Green's response to the medical and supply services question was: "There were sufficient." He described the unit's health as: "Very bad. Lots of typhoid fever."[64]

Norman Hobgood served with the 3d Kentucky Volunteer Infantry. Like the responses of the two members of the 21st Kansas, Hobgood's replies were short and to the point. He said the medical and supply services were not too good, and the health of his unit improved after it left Chickamauga. Webb Oxendine of the 3d Tennessee said that medical and supply services were": Good as could be expected at that time." And about health, he said: "Had a lot of sickness."[65]

P.W. Barnard of the 14th Minnesota gave more extensive answers to the survey questions. He said "Sanitary conditions very bad. Latrines were close to kitchen tents and they consisted of an open hole in the ground, no cover at all, flies swarming. Weather hot." He said medical and supply services were: "Poor at that time owing to the lack of trained and experienced personnel." Unit health was: "Lots of dysentery caused by unsanitary conditions and lack of wholesome rations." Donald K. Frost of

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[63] **Ibid., Box 51.**

[64] **Ibid., Box 54.**

[65] **Ibid., Box 60, 172.**

the 12th Minnesota said that medical supply: "did not turn out to be good enough for the circumstances." According to Frost, unit health was: "Very poor. Lots of malaria & some deaths. At times ½ to 1/3 of the company on sick call. They finally moved the whole regiment to Lexington where conditions were <u>much</u> improved."[66]

Three members of the 2d Nebraska responded to the survey. Ole Sorenson stated he had contracted typhoid at Camp Thomas. He said the unit health was: "Epidemic of typhoid, every other man sick. Chickamauga morgue." William E. Ayers stated his unit had 106 men to begin with, and after 60 days, only 40 men remained. All the others were either dead or in the hospital. Alfred R. Griffin responded to the question on unit health as follows: "The unsanitary conditions and poor water supply at Chickamauga Park, GA were the causes of hundreds of cases of typhoid fever and many deaths."

Frederick W. Dunson of the 2d New York answered the question about supply and medical services in some detail. He said": Extremely poor as far as medical supplies were concerned. About the only medicine available on sick call was a quinine pill or a dose of castor oil out of a tin cup. Anything more serious sent to brigade hospital. We had three doctors with our regiment but they had nothing to work with. Our company lost eight men due to typhoid malaria and there were over forty died in the regiment before we were moved north. About health in his unit, he stated: "Health was not good after arriving in Tampa. We all lost weight, had jaundice, diarrhea, bloated abdomens. Dunson noted he was the last survivor of his unit of 93 men and

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[66] **Ibid., Box 82, 80.**

three officers that left the local armory on May 2, 1898 to entrain for Camp Black and muster into federal service.[67]

Charles W. Riddle of the 4th Ohio had more positive memories. He said his unit had: "Fine regimental medical unit and good supply services. Seldom short of any needs."The unit had": Good general health, some dissentary due to diet and heat." Frank Vincent of the 6th Ohio sent a newspaper clipping stating that the 1st Ohio Cavalry was the first volunteer unit to arrive at Camp Thomas. He also noted that the 6th Ohio arrived on May 20 and suffered the first death from typhoid on May 25.[68]

Arthur B. Lader from the 1st Pennsylvania responded to the question on health by stating that: "Many cases of typhoid. My brother, Theodore was sent home on a hospital train. Several in the company died of typhoid." William Amberson of the 5th Pennsylvania said unit health was: "Declining, each day some fell sick due to the filthy camp flooded each day by sudden showers of rain." Edwin F. Knight of the 16th Pennsylvania contributed a section of a memoir he wrote describing camp life. Frederick Luckenbach of The 3d Pennsylvania said: "Had to stand in line for quinine tablets? Medical attention was lacking or below standards."[69]

Two members of the 1st Vermont responded to the survey. Arthur W. Fisher submitted a copy of the 50th reunion of the regiment, held in 1948 with a list of those who served. Edward Prouty, who served as a Lieutenant, and later was promoted to

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[67] Ibid., Box 109.

[68] Ibid., Box 133.

[69] Ibid., Box 134,147,156,145.

Captain sent a letter he had written to his brother on July 8, 1898. He told his brother that there was a rumor that Camp Thomas was to be condemned and troops sent to Gettysburg and Fortress Monroe. He told his brother that this arises from the fact that there had been a number of cases of typhoid in the last several days. He said he did not fear the fever because he had already had typhoid and that made him immune to the disease. Prouty also donated a scrap book of newspaper clippings about Camp Thomas.[70]

There were two responses from men in the 2d Wisconsin. Spencer Graves said medical and supply services were: "Rotten" and health was": Fair. About 65%, plenty of sickness." John P. Strandberg offered more detail in his response. He said medical and supply services were: "Very poor. A doctor was with our company. In fact, he came from our home city. His name was Dr. O.H.Arndt. He gave the same pill for all ills." On unit health, Strandberg commented: "Our company was the healthiest in the regiment probably because we liked beer."[71]

There were also two responses from the 160th Indiana. James C. Croy said of medical services: "Poor. I was in the hospital a week and every man got the same pills. Didn't matter what was wrong with him." On unit health, Croy stated it was:"Quite good. Dysentery struck the boys at Camp Thomas (illegible) water & embalmed beef."

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[70] **Ibid., Box 302.**

[71] **Ibid., Box 129.**

E. Harry Phards donated a copy of the *Tipton Times* dated April 27, 1899. It stated that there were 12 deaths in the 160th Indiana and seven of these were from typhoid.[72]

The New York regiments supplied a number of responses. Theodore R. Godwin of the 14th New York said of medical supply: "Poor at first, improving greatly later. Typhoid epidemic in Chickamauga." He said unit health was: "Excellent." John A. Nelson, also of the 14th. commented on the doctors in the New York volunteer regiments. He said they were: "Bad. That is the reason Governor Black fired the two so-called doctors we had." Nelson answered a survey question on training and again referenced the doctors. He said:"The food and water was not anything to write home about till Governor Black came to our camps, fired the two allege[d] doctors and on the verge of firing the brevet colonel who really was a captain in the cavalry." Two entries for the 8th New York concerned brothers. Nathan M. Stern reported he served at Camp Thomas and left there September 8. He was admitted to Mt. Sinai hospital in New York September 9 for treatment of typhoid fever contracted at Camp Thomas. Re was released from the hospital November 3 and discharged. His brother, Charles Stern was an assistant surgeon and was also sent back to New York and Mt. Sinai for treatment of typhoid. On his recovery, Dr. Stern served in San Juan, Puerto Rico from May to October 1899.

One soldier from the 1st Illinois Volunteer Cavalry Regiment responded to the survey. Bernard Lichtie responded to a question on leadership with an account of his suffering from disease. He said:" Was left lying in my tent 2 or 3 days in my green

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[72] **Ibid., Box 46. The Typhoid Board recorded 8 deaths from typhoid. TCR, 1:55-56.**

vomit-under the assumption I was drunk while I really had typhoid fever. On medical and supply, Lichtie commented that it was: "Very bad. Out of the Spanish-American War developed and came our modern devotion to sanitation and cleanliness."[73]

Writing almost seventy years later, the veterans of Camp Thomas echoed the problems described in the testimony before the Dodge Commission, the Typhoid Board and the press. Bad food, bad water, much suffering and weak or disorganized medical care were their vivid impressions. All that remains is to place the events in context and attempt to assess their significance.

The voices of all who were involved, from private soldiers to generals, medical men, government officials including the President, civilians and in particular newspapermen create a unique narrative. They offer a perspective that focuses more on the events and the experience of individuals. By doing so, additional insights into the history of the Spanish-American War are created.

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[73] **Ibid., Box 29.**

Chapter 8 - Conclusions

"*Qui procul hinc, qui ante diem periit*:

***Sed. miles, sed. pro patria*.**

Who died far away, before his time,

but as a soldier and for his country."

Epitaph, Henry Newbolt, 1862-1938, Clifton Chapel.

"On fame's eternal camping ground

Their silent tents are spread,

And glory guards with solemn round

The bivouac of the dead."

Theodore O'Hara *The Bivouac of the Dead,* 1847

"(written to commemorate the American dead at Buena Vista, February 22, 1847, and required, by a 19th century act of Congress, to be displayed in every National Cemetery.")[1]

What conclusions may be drawn from this study? Like all historical situations, there is not a single factor or condition that can be isolated as the cause of the events. There were many causes that influenced conditions. Beginning at the top, the McKinley administration's decision to call for mobilization of volunteers in numbers almost exactly equal to the strength of the National Guard was clearly a political, rather than a military decision. McKinley's desire to capitalize on popular support for

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[1]**Heinl, *Dictionary of Military and Naval Quotations,* 79,76**.

war, while understandable, would lead to a series of problems. What planning had been conducted by the War Department had assumed an army of 60,000 men, rather than one of 200,000 men. The Regular Army had been limited to a strength of 25,000 men and the Army staff in Washington was experienced in providing support for an Army of that size. When the numbers were increased almost tenfold, administrative chaos was the result and the government would prove itself unequal to the task of housing the new volunteer army in sanitary conditions.

Congress was also at fault. They neglected the active Army's needs for decades and refused to form a General Staff, an organization that had become common in European Armies. When implementing legislation for mobilization was written, Congress elected to omit mobilization of the existing National Guard hospital units, ensuring that volunteer units would arrive without the men needed to staff their regimental hospitals and ambulance units.

The War Department bears blame as well. After mobilizing the Regular Army quickly and efficiently, it became overwhelmed by the demand created by the need to equip, transport, feed and provide medical care for thousands of volunteer soldiers. The organization of the War Department created individual fiefdoms, each staffed by officers who were assigned to it on a permanent basis. More than thirty years of comparative peace had created an environment where cost control and correct documentation were deemed important. The isolation of the staff departments from the line meant that operational experience was not available when decisions on equipment, weapons and supplies were made. The institution of Commanding General created the potential for conflict when the officer filling that position defined his role

as commanding the Army, while the Secretary of War felt he should make those decisions. Nelson Miles and Russell Alger made this conflict occur. A pivotal moment came when Alger issued an order to Miles to inspect the volunteer camps. Miles' refusal to comply represented a missed opportunity. If he had gone, Miles might have taken action to change the situation at Camp Thomas.

The Medical Department exemplified the staff mentality. A key example surfaced when the Typhoid Board began its work. They asked General Sternberg for the authority to establish a diagnostic laboratory in each of the volunteer camps. This was done, and the existence of typhoid was rapidly confirmed. The staff of the Medical department had the requisite knowledge and Regular Army medical officers were quickly assigned to this task.

Sternberg's Circular No. 1 had noted the possibility for disease, and identified the key sanitary measures to avoid it. Yet no one on the staff proposed that such a capability be provided for the largest assembly camp of the volunteer Army. An instance of the limitations placed on the Medical Department before the war was described by General Sternberg before the Dodge Commission. He was asked when he began preparations for the demand expected after mobilization. Sternberg replied that he "commenced preparations, <u>involving no expense</u> , (emphasis added) as soon as there was a prospect of war." Sternberg went on to say that he had spoken with Secretary Alger about whether he would be justified in beginning to purchase medical supplies to prepare for the possibility of war. Alger told him that he must wait, and Sternberg did so, commenting to the commission that in fact, he had no authority and no money. The

50 million dollars appropriated by Congress for national defense included a total of twenty thousand dollars for the Medical Department.[2]

The political climate also affected events. Both Sternberg and Alger were besieged by people asking for positions in the Volunteer Army, families asking for information about their sons and husbands, and politicians demanding that they take action on various items. During the withdrawal of regiments from Camp Thomas, some states sent trains to pick up their soldiers and return them home. Doctors got medicine and supplies from relief agencies and through civilian friends. The volunteer Army reflected civilian life, and at Camp Thomas, there was considerable influence exercised by the supply of material from civilian sources, and later the presence of female nurses recruited for service in the camps.[3]

General Brooke seems to have established the camp areas for regiments very early, and afterwards made no effort to make the units move. In his defense, the continuing rumors about when units were to move, followed by the orders for him to move the First Corps to embarkation sites for the Puerto Rico campaign may have made him believe that moving units might have been unnecessary effort if they were soon to embark. Brooke oriented his efforts on sanitation to the regiments in the First Corps.

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[2] **Vaughan, *A Doctor's Memories,* 370*;* Gibson, *Soldier in White,* 184-185; DCR, 6:2812-2813.**

[3] **Sternberg*, George Miller Sternberg: A Biography,* 194; Alger, *The Spanish-American War,* 29-32, 38-39.**

The surgeons at Camp Thomas were a major influence. Many came believing that malaria was possible, and when fevers developed, they took the approach of treating them as malarial. The doctors who served as volunteer surgeons, like the soldiers they treated had been drawn from all elements of civilian life, practicing in small towns or big cities, some trained in good medical schools and others with less effective training. They had varying levels of experience and knowledge. Not surprisingly, their performance varied. A New York regiment had two "alleged doctors" who were fired by the governor. The regimental surgeons of the 1st Mississippi, which arrived with barefoot soldiers dressed in rags, correctly diagnosed some of their men's diseases as typhoid. Importantly, many regimental doctors kept soldiers in the regimental hospital when they should have been sent to the division hospital. There was a strong belief that men from a state should receive treatment from doctors from their home state. This could be helpful or sometimes, fatal. Doctors who ran hospitals had difficulty in handling both medical and administrative duties. Typhoid cases were not always isolated. Soldiers who were detailed to work as nurses were ignorant of their duties, sometimes unclean and occasionally drunk. Female nurses, by comparison, were trained and experienced, and proved a boon to patients who received care from them.

One factor that was not evident when this study began was the influence of time. Soldiers began arriving at Camp Thomas in mid-May. The last unit left on September 14, with the bulk of units departing by the end of August. The typhoid outbreak happened during a period of four months at most. Typhoid began to spread in July, but the dates of first occurrence ranged from May 11 to June 26. Without good

diagnostic capabilities, the earliest cases were characterized as resulting from change of water, food or climate. [4]

Before turning to analysis, some facts will help to reinforce the significance of the outbreak. The United States Army suffered deaths during the Spanish-American war from enemy action, including soldiers who later died of their wounds and from disease. Two hundred eighty men were killed in action and sixty-five died later. Two thousand five hundred and sixty-five died of disease. Approximately 12 percent of deaths were incurred in battle, and the other 88 percent from diseases. There were one thousand five hundred ninety deaths from typhoid in the five major assembly camps. Seven hundred and sixty-one of those deaths were from units at Camp Thomas. This represents 47.86 percent of deaths from typhoid. Put more simply, almost half of the volunteer soldiers who died of typhoid were at Camp Thomas. [5]

What was the impact of the influences noted above? There were problems with organization and mobilization, locations of camps, funding, problems with authority and responsibility, with equipment, discipline, training, procedures, interference and sanitation.

Organization and mobilization suffered from the decision-making process in the McKinley administration and the lack of a planning organization within the War Department. The hasty mobilization was aided by the feeling on the part of volunteer units that if they arrived early to the mobilization camp, their chances of being sent to

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[4] TCR, 1:16-17,220-221, 37-38,214-215.

[5] DCR, 1:265; TCR 1:675.

fight were enhanced. The number of troops assembled overwhelmed the capacity of the Army departments to order and get materiel shipped. The state governments did not help things by sending units without food, or with only a little food and keeping back medical supplies in the belief that the federal government would speedily supply everything needed. The equipment of National Guard units was old and not serviceable for extended use, and again, it was not easy to get enough supplies to equip the number of soldiers mobilized. The decision to organize division hospitals was sound, based on Civil War experience. But the implementation of the decision was resisted by volunteer units. There was some justification for their feelings, since they lost the services of some of their regimental doctors, but the resistance took the form of holding seriously ill men in the regimental hospitals when they should have been transferred to the division hospitals. These hospitals were staffed by officers drawn from the regiments. A qualified doctor might not have the necessary management skills to run a large hospital and as a result, conditions often became chaotic.

At Camp Thomas, General Brooke selected sites for all of the regiments. It appears from the arrival data that he constituted divisions and corps as the required number of regiments arrived. The first nine regiments to arrived were the First division of the First Corps, and so forth. The units were arranged near road junctions, but the camp sites were too small. Brooke failed to move the units to areas where they would have enough space.

The two problems with funding were; first, there were not enough funds allocated to the Medical Department and second, the War Department failed to permit purchases of medical supplies in advance. Congress passed legislation to provide for

national defense, and most of the appropriation went to the construction and maintenance of fortifications to defend harbors. When the Army mobilized, there were not enough supplies on hand to equip the volunteer soldiers.

Army medical officers had to depend on their own personal forcefulness to get commanders to take action because they were only allowed to recommend. Commanders felt that their medical officers managed medical affairs, and they did not feel responsible for them. Two key recommendations of the Typhoid Board were that medical officers should be given greater authority in questions relating to camp hygiene and that superior line officers could not be held blameless for unsanitary camp conditions. Where commanders enforced hygiene and taught their soldiers that it was necessary for their health, as in the case of Colonel Pew and the 8th Massachusetts, conditions were better and death rates lower.

Medical units suffered initially from a lack of equipment. Regimental hospitals were not allowed to draw any medication because men were to be sent to the division hospitals. Doctors were accustomed to prescribing certain medications, and the system did not supply them. This led to doctors bypassing the Army system and getting medicine, supplies and equipment from various aid societies. The aid societies made it known that they were doing this, and the press informed the public. The Army administration was characterized as unresponsive and inefficient.

Perhaps the greatest evil in the mobilization was the lack of discipline in volunteer units. The Typhoid Board noted that camp pollution was “the greatest sin committed by the troops in 1898.” Men assembled from all over the country had a variety of habits.

Farm boys and cowboys were accustomed to eliminating wastes wherever it was convenient. City and town dwellers were used to privies, since sewers were still rare. Thus, the wooded areass around camp sites were fouled with human wastes even before the outbreak. Typhoid fever is characterized by high body temperature and diarrhea. When the outbreak intensified, many men were too ill to reach a latrine and their bodies were voiding wastes uncontrollably. One soldier at another camp noted that the path to the latrine was littered with "as many as two dozen pairs of underdrawers discarded by men who could not reach the latrine in time." Discipline in a unit begins with the noncommissioned officers and these individuals in volunteer units were often friends or relatives of the soldiers they had in their charge. Faced with undesirable tasks, men often refused. Latrine wastes were not covered, new latrines were not dug, and disease spread.[6]

Training for volunteer units usually consisted of practice for marching in parades. The National Guard as a state organization was trained in the way the state government required. The only significant activity other than marching was periodic calls to put down riots. Encampments were for show. The 8th Massachusetts had an improvised engineer group that had shovels they carried in street parades. When they tried to use the shovels at Camp Thomas, the implements only lasted two hours. The unit was equipped for "eye service," i.e. appearance. The unit's knapsacks were found

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[6] **Cirillo*, Bullets and Bacilli, 70-71, 75-77.***

to be inadequate, although covered in enamel leather for appearance. In July, they were burned and replace by more substantial govenrment blanket bags.[7]

Because typhoid fever is a gastrointestinal disease and one of the principal symptoms is diarrhea, patients should be placed on a low residue diet. Soldiers in the hospitals did not understand this and felt they were being starved. Often their comrades would bring them food, and in some cases this proved fatal. Soldiers sent home on furlough also received too much food and often expired. Well-meaning civilians and family members were distressed by the appearance of returning soldiers and gave them too much food.

Training for those assigned as hospital attendants was also inadequate. Many men were not in the habit of washing their hands frequently, which increased the risk of contagion as they worked with patients. The sick were sometimes ignored, and beds were fouled and the patients left in their own excrement.

Patients were furloughed and sent home, often before they had recovered. The Typhoid board noted that its figures on death were not as complete as they might have been because of the furlough practice.

The Spanish-American war remains a fruitful area for historical study. There is extensive material in the form of newspaper articles and personal reminiscences, as well as a number of scholarly monographs. One approach that suggests itself at once is a study or studies of the experiences of volunteer soldiers in the other assembly camps.

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[7] Webber, *Twelve Months with the Eighth Mass.*, 30-31, 13.

Camp Cuba Libre near Jacksonville was noted as a well-organized site and yet typhoid made its appearance there.

There are numerous opportunities for vertical studies of units. Regiments, brigades and divisions could be profiled, with comparisons of experiences between units from different states. Alternatively, the experiences of the regiments from states such as New York, Ohio, Pennsylvania and Illinois which had units in several of the assembly camps could be studied. A good example is Clifford Westermeier's *Who Rush to Glory* which studied the three "cowboy" regiments, placing the well-known "Rough Riders" in context with their less well known comrades in the other two regiments.

Sources held in state historical libraries and collections could be used to describe individual experiences. Again, the experiences of soldiers from a single state might be the subject of a monograph.

The Dodge Commission report contains a wealth of material. The commission itself would be an excellent topic for historical study. More detailed profiles of each member and background on the selection process would enhance our understanding of the events surrounding the commission. The Typhoid Board would also bear additional scholarly attention. Walter Reed's success in finding the cause of yellow fever has overshadowed his work on the Typhoid Board. Additional details on the background of Edward Shakespeare and Victor Vaughan would further Illuminate their efforts.

Individual studies or an examination of a group of commanders or doctors might prove fruitful. For example, a study might look at the three generals who commanded Camp Thomas; General Wade commanded the Third Corps and has not

received much attention. The general officers commanding divisions might be the subject of a study. One example is Brigadier General Fred Grant, son of Ulysses S. Grant. He appeared briefly at Camp Thomas, but his life might be a subject for further study.

In researching the role of newspapers, I found that a number of dissertations and books have focused on the role of newspapers during this period. Studies of newspapers in specific areas are numerous, with one glaring exception. No one has studied the role of southeastern newspapers, even though many of the volunteers were located in camps in this area, and both invasion forces were launched for the most part from Florida. The newspapers are readily available and a dissertation on this subject would fill a void in the history of the war and the period.

Several points will serve to summarize this study. First, the Army learned rapidly from the experience at Camp Thomas. When units were moved to other locations, they were given adequate space and sanitation discipline was rigidly enforced. General Sanger's description of the arrangements at Lexington virtually copies the recommendations of the Typhoid Board. Next, the Army changed the training of officers, both those already serving and cadets at West Point to include instruction on sanitation. The Army stated that sanitation was the responsibility of commanders at all levels.

The Camp Thomas outbreak affected civilian sanitation efforts. Because it was so large and men from so many states were affected, the outbreak served as an example of the faults that led to disease. Health publications used the events and cited the statistics to show that good sanitation could lead to the avoidance of disease.

The Army continued efforts to develop a workable vaccine to prevent typhoid fever. The Army Medical Department drew on the experience of Dr. Almoth Wright in England and manufactured its own vaccine which it made available to other govenrment departments. By World War I, typhoid fever was under control. The medical manual in use listed all of the steps noted by the Typhoid Board, and described correct handling and administration of the vaccine.

The typhoid fever outbreak represented a collision with reality. The assumption that Americans could spring rapidly to arms and fight for their country was found be to incorrect. A modern army requires trained men who are prepared to live in the field and use the weapons and equipment provided for them. These men must be formed into disciplined units and trained to work together. If the nation desired a citizen Army, then the National Guard had to be trained and practiced in all of the military skills. Camp Thomas made it clear that field sanitation was one of the most important skills and discipline to practice this sanitation and avoid disease one of the most important characteristics of a military unit. Reforms following the Spanish-American War did not solve all of the problems, but they represented a major step in the development of America's military capability. The Camp Thomas experience is valuable as an illustration of this collision with reality.

The voice of a soldier remembering his experiences at Camp Thomas many years later summarizes this study. Howard Schoonover served in the 52d Iowa Volunteer Infantry. "Health was excellent for the first 30 days. After 30 days, it began to deteriorate and when it became apparent that the regiment was not going to be able to get to the front, it seemed to have an effect upon all of the men in a terrible letdown

in health and activity of all kinds. The latter part of August, we had only two squads in a company of 100 men who were able to answer drill call." Soldiers remembered a disease that struck down many of their comrades, killing some and incapacitating the rest. [8]

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[8] ***Spanish-American War Veterans and Widows Survey***, **U.S. Army Military History Institute, Carlisle Barracks, Pa.**, **Box 51**.

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