AN ABSTRACT OF THE THESIS OF

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Signature redacted for privacy.

David Brauner

Fort Hoskins, located in Kings Valley, Oregon, was a U.S. Army post established in 1856 and decommissioned in April 1865. In 1992, the site of Fort Hoskins went into the public trust as a Benton County Park. Developing an interpretive center for the park will necessitate ground disturbing activities on the site of the Fort Hoskins Infirmary. Accordingly, in 1993 and 1994, archaeological testing was conducted at this location to determine the potential impact such work will have on the archaeological resources associated with the Infirmary.

This thesis examines military medicine at Fort Hoskins and provides a basis for comparison with other similar archaeological sites. American and military medicine during the Civil War period is discussed to provide a broad context within which to interpret operational practice and procedure at Fort Hoskins. Data on sick and wounded at Fort Hoskins is utilized to form a picture of the everyday life and health of soldiers at the post. The general and site specific contexts developed are used to analize the artifact assemblage and provides a valuable source of information regarding medical practice and potential distribution and location of further archaeological resources at Fort Hoskins.

Frontier Military Medicine at Fort Hoskins, 1857-1865:
An Archaeological and Historical Perspective

By

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I understand that my thesis will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.

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Timothy D. Trussell, Author

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TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF FIGURES

LIST OF TABLES

FRONTIER MILITARY MEDICINE AT FORT HOSKINS, 1857-1865: AN ARCHAEOLOGICAL AND HISTORICAL PERSPECTIVE

CHAPTER 1: INTRODUCTION

Focus of Study

The focus of this study is the U.S. Army Infirmary which operated at Fort Hoskins, Oregon, from 1856 through 1865. Excavations were conducted at the site of the Infirmary during the 1993 and 1994 field seasons by Dr. David Brauner of Oregon State University. The purpose of these excavations was to assess the potential impact of future ground-disturbing activity around the foundation of the Franz-Dunn house, which rests on the site of the Fort Hoskins infirmary. Results of these excavations showed that significant cultural material from the U.S. Army occupation of the site was present. However, the relatively small number of hospital specific artifacts found during this project raised questions about military medical practice and procedures of the time, and how they would affect the deposition and distribution of the artifact assemblage at the infirmary. Unfortunately, reports of archaeological excavations at similar western military posts revealed very little information pertaining either to hospital specific material culture, or to medical practice and procedure at these posts. Further research also indicated that while the role of the Army in the west has been thoroughly examined by historians, and medical practice on the eastern battlefields during the Civil War is also documented in great detail, very little research has been done on military medicine of this era as typically practiced on the frontier.

The primary goal of this thesis is to use archaeological data and documentary sources to examine military life and health at Fort Hoskins from 1856 to 1865, and to provide a

context for this study through an overview of frontier military medicine during this era. Methods used to accomplish this objective are; 1) extensive utilization of primary sources from Fort Hoskins to describe in detail the personnel, daily routine, duties and responsibilities, and medical practice and procedures at the post; 2) to examine the data on sick and wounded soldiers at the post and compare these statistics with the U.S. Army as a whole in order not only to illustrate health and disease at the post but also to gain insight into the patterns of life of the soldiers stationed there; and 3) to use these conclusions to examine the archaeological data from excavations at the infirmary from an integrated historical and archaeological perspective in order to understand the distribution, type, and frequency of material culture found at the infirmary site. This overview is also intended for use as a comparative tool for other archaeologists researching similar frontier military posts.

Primary source materials utilized in this study are varied, and where possible, an emphasis was placed on the use of primary sources when discussing Fort Hoskins specifically. The Fort Hoskins Letterbook, Post Orders, Post Returns, and Medical Records are all National Archives documents referenced in this study. Although some of these collections, and specifically the Medical Records, are incomplete, they represent an excellent window into the daily existance of the soldiers at the post. The limitations of the Medical Records are discussed in Chapter 9. Two diaries of soldiers who served at Fort Hoskins and Fort Yamhill are also referenced for first had accounts of post life. Newspapers and personal correspondence from the period were consulted, and auto-biographical works of people wheo served at or passed through Fort Hoskins were also utilized, specifically the works of Phil Sheridan and Dr. Rodney Glisan.

The term "frontier" is used throughout this paper to denote all regions where settlement was occurring on previously sparsely populated lands, necessitating the presence of the U.S. Army to enforce treaties, protect settlers or Indians, or generally to police large areas of territory. During the time of Fort Hoskins this "Frontier" generally

encompassed all of the western United States. This definition, though, would also include many other areas, and is not meant to connote an imaginary "line of civilization" stretching across the country and being constantly pushed westward.

Significance of Thesis

This thesis demonstrates that medical practice on the frontier differed significantly from battlefield medicine in the east, and posits that "frontier medicine" should be examined as a separate entity. The American medical profession and the U.S. Army Medical Corps during the mid-nineteenth century is also examined to provide a context within which to understand the operations at the Infirmary, as well as the personnel in charge. Finally, the life of the soldiers and the typical problems faced by an army physician on the frontier is examined to illustrate the role of the infirmary in the daily operations of a frontier military post.

A major significance of this study is that it examines military medicine on the frontier from an archaeological and historical perspective. Information developed in this report regarding the health of soldiers at Fort Hoskins provides a method for that can be applied elsewhere. In general, archaeological research at hospital sites has been largely overlooked. Research regarding frontier military posts similar to Fort Hoskins has been consulted extensively in this study, and in the Pacific Northwest, excavation reports and historical research have been utilized from Forts Vancouver, Yamhill, Stevens, Lugenbeel, Umpqua, and the San Juan Islands. Unfortunately, aside from simply stating the presence of an infirmary on the site, most reports gloss over issues of health and disease at the post, and few make use of archaeological data from the infirmary. Reports and historical research from other western military outposts dating to the mid-nineteenth century have also been utilized, specifically when these reports dealt with health and

illness or with excavations at the hospital site. In the Pacific Northwewst, the tendancy to overlook the hospital site at these posts leaves significant gaps in the historical and archaeological record of frontier military posts. This oversight may simply be due to a lack of source material with which to research and understand frontier medicine of this era in a site specific context. This thesis will provide a context within which to interpret historical and archaeological data on other frontier military posts, and will also provide the medical data to statistically compare health and illness at Fort Hoskins to these western posts, and to the U.S. Army as a whole.

CHAPTER 2: SITE LOCATION AND HISTORY

Site Description

Fort Hoskins is located at the southern end of the Kings Valley on the Lukiamute River, in the northwest corner of Benton County. The site is in the N.E. 1/4 of section 30, T.10SN R.6W, Willamette Meridian. The fort site is strategically situated on a two acre terrace overlooking a broad flood plain, and providing a commanding view of the valley and the river. The parade ground lies at 400 feet above sea level (Brauner 1994: 5).

Moderate to well drained silty clay loams that formed in colluvium weathered from sedimentary and igneous rocks form the terrace soils (Knezevitch 1975: 3). Primary vegetation in the area consists of Douglas fir (*Pseudotsuga menzeisii*), oak (*Quercus* sp.), maple (*Acer* sp.), ash (*Frayinus latifolia*), blackberry (*Rubus L.*) rose (*Rosa L.*), hawthorn (*Crategus L.*), snowberry (*Symphoricarpos Duhamel*), and grasses (*Festucal, Bromus L., Ceschampsia Beauv., Elymus L.*) (Boyer 1991: 32). Average annual precipitation is 40 to 60 inches, althoughduring the 1850's and 1860's, during the time of the military occupation of Fort Hoskins, annual precipitation was higher than at present, while mean temperatures were generally colder in winter (Brauner, personal communication, 1994).

Founding of Fort Hoskins

The founding of Fort Hoskins was one result of the conflict between Native American tribes living in Oregon and the increasing numbers of white settlers entering the region during the 1840's and 1850's. The fort was, in fact, a direct result of the establishment of the coastal reservation system in Oregon, shown in Firgure 2.1. At the conclusion of the Rogue River Indian wars in 1855, Joel Palmer, the Superintendent of Indian Affairs for

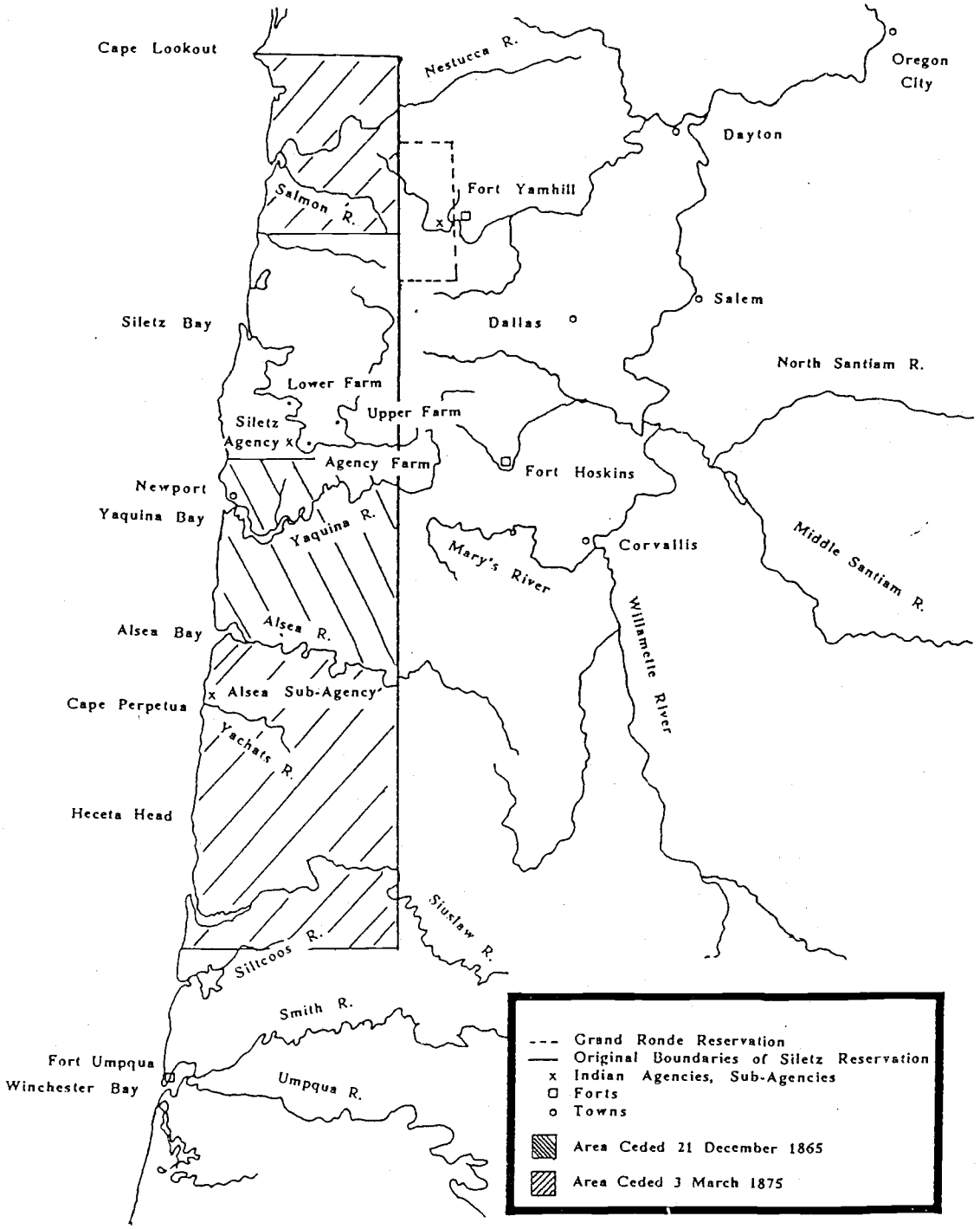


Figure 2.1 Coast Reservation (Brauner and Stricker 1991: 47).

way to avoid a similar conflict in the future was to keep white settlers separate from the Native American population. He chose to do so by relocating various tribes to a coastal reservation (Brauner and Stricker 1994: 77). In 1856, only three known passages through the coast range were known to exist, and the decision was made to establish a military post at or near each of these passages.

The process of site selection for Fort Hoskins began when on July 21, 1856, Lieutenant Philip Sheridan, accompanied by Palmer, left Fort Yamhill to explore the Kings Valley and the Lukiamute River drainage. Palmer and Sheridan were joined by Colonel Christopher C. Augur in their search for the best place to establish a military post to monitor the central portion of the reservation and the Siletz Indian Agency (Brauner and Stricker 1994: 80-81). A position was agreed upon and in November of 1856, Lt. Sheridan began overseeing the erection of temporary quarters to house the troops through the upcoming winter.

In July of 1856, the as yet temporary post was christened Fort Hoskins in honor of a comrade of Colonel Augur who had been killed while the two were serving together in Monterey, Mexico in 1846 (Boyer 1992: 22). In 1857, the temporary structures were deemed unacceptable and were torn down, while more suitable buildings were erected on the permanent site of Fort Hoskins (Fort Hoskins Letter Book [FHLB], June 30, 1857) From 1856 through 1861, the post was manned by soldiers from the 4th Infantry.

Post Hospital

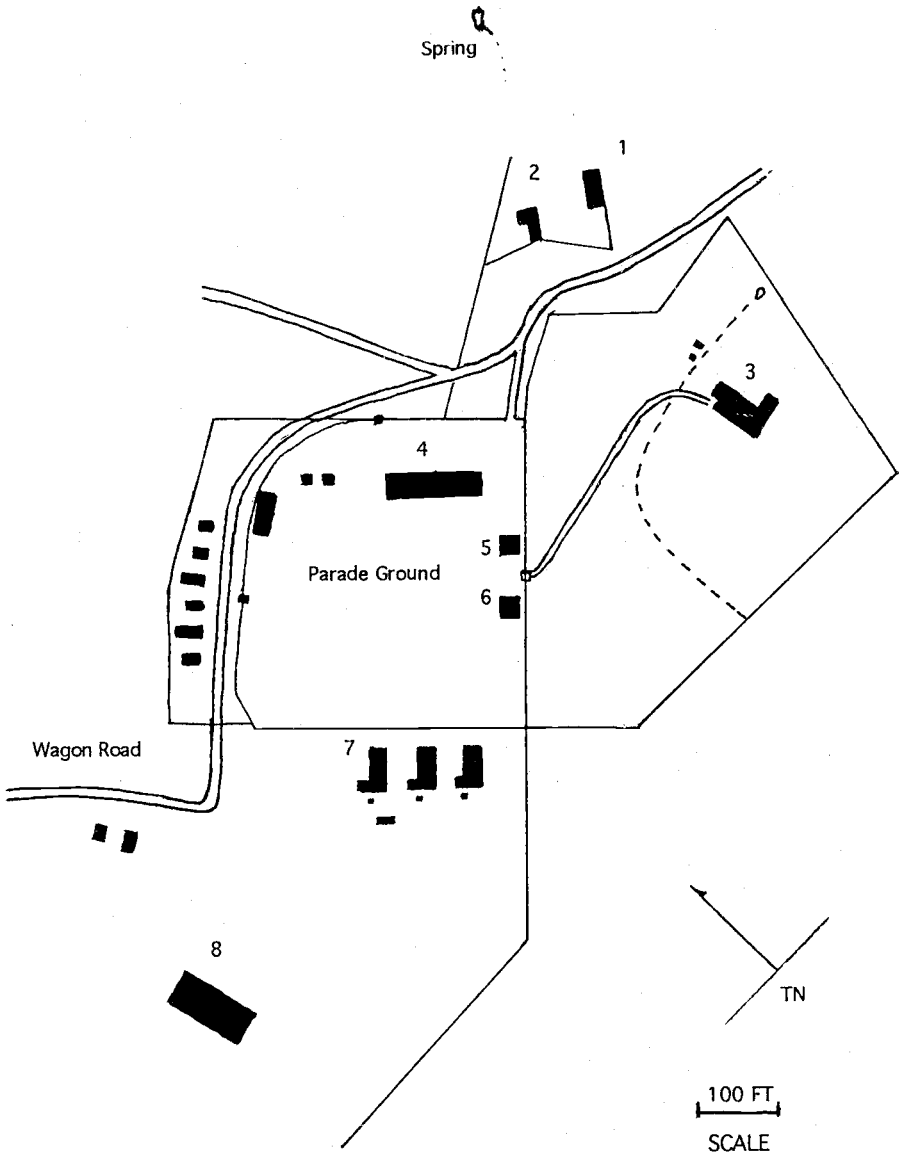
Fort Hoskins was designed to hold two companies of infantry, and although the population often fluctuated greatly, an average of 127 men and officers were stationed there during the regular army occupation of the fort (Fort Hoskins Medical Records [FHMR], 1857 -1861). In order to provide proper medical facilities for this number of

men, a large hospital was built in 1857 or 1858. Figure 2.2 shows the location of the Hospital in relation to the main area of Fort Hoskins. Standard medical practice at the time dictated that in case of an outbreak of contagious disease, the hospital should be located a short distance away from the main area of the post. The hospital at Fort Hoskins was built on a small terrace which was lower than the main fort, and approximately 320 feet from the nearest building. This location was also advantageous in that it was near a small spring, an excellent source for fresh water which was separate from the water source for the main post.

The only description of the post hospital comes from a U.S. Army Inspector, Colonel Joseph Mansfield. His report describes the overall condition of the command. He also describes in detail the equipment present, the personnel in charge and the state of different departments, as well as various buildings at the post The following excerpt is from Mansfield's report of November 19, 1858:

> [The Hospital]... is under the direction of Assistant Surgeon Lewis Taylor, who has a good steward, and a supply of medicines &c for one year, for one company: but as the post is healthy, it will probably answer for the two companies now here. The dispensary, wardroom, & kitchen & Books &c in good order, & there seems to be nothing wanted for the sick. He keep [sic] a cook, nurse & matron. The latter is a squaw, as no other was to be had to do the washing. There is a fund of 32.23 dolls, & a garden.

From the highly detailed map drawn by the Post Surgeon, Dr. E.Y. Chase in 1864, the basic dimensions and interior layout of the hospital is known. The total size of the building was approximately 80 x 62 feet, with a small additional room on the south east corner of the building which measured about 20 x16 feet. From Mansfield's description and Chase's map, the interior of the infirmary can be compared to other similar hospitals constructed by the military at the time and inferences made regarding how the different rooms were used. Figure 2.3 is a drawing taken from the Chase Map of the Fort Hoskins infirmary, with a detailed interior floor plan showing how each room was probably used.



FORT HOSKINS
OREGON

1. Sutler's stables
2. Sutler's store
3. Hospital
4. Company quarters
5. Guard House
6. Adjutant's Office
7. Officer's quarters
8. Quartermaster stables

Figure 2.2. Fort Hoskins, from E.Y. Chase map of 1864 (National Archives).

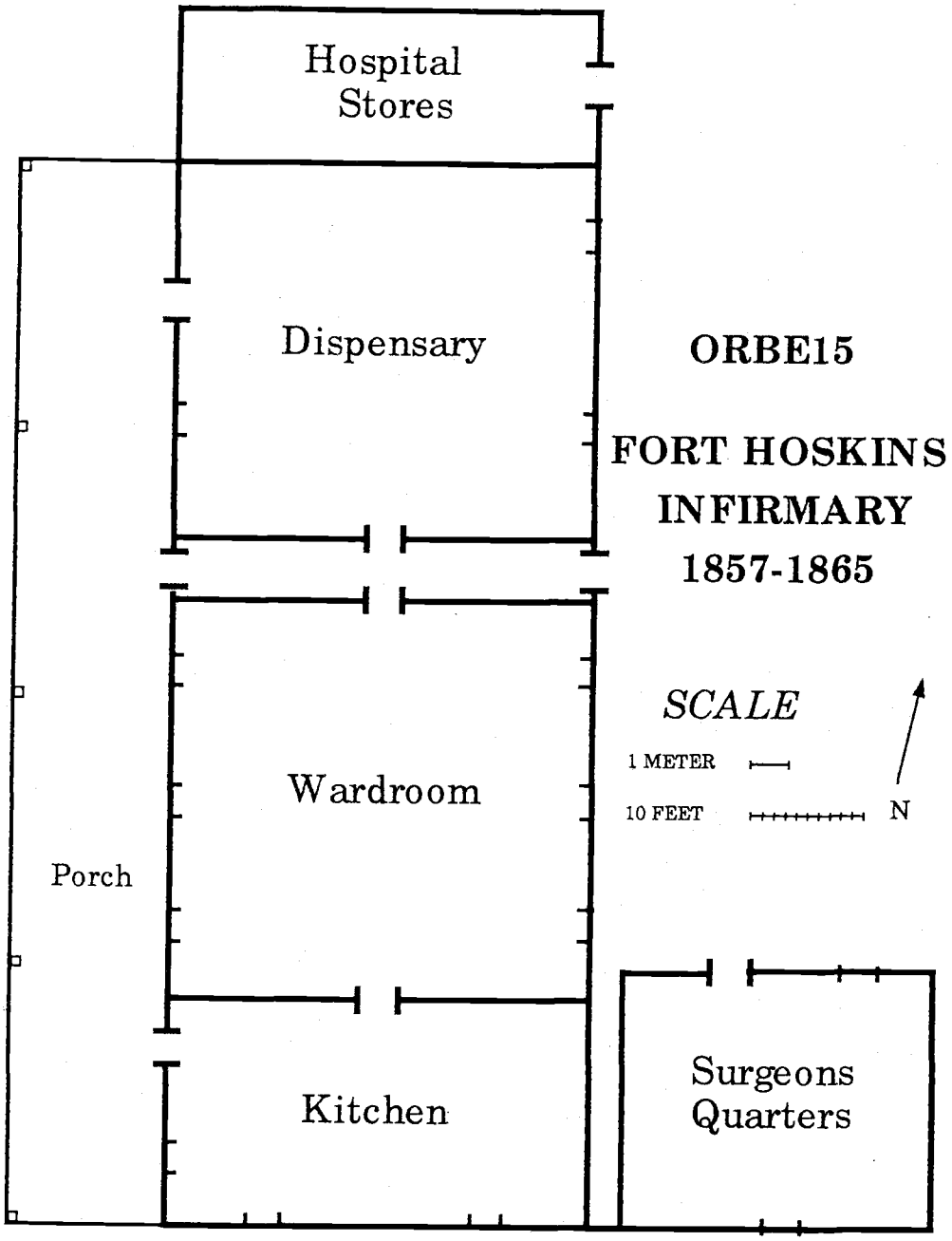


Figure 2.3 Interior Plan of Hospital (National Archives).

This building may have been placed on pilings due to local topography. Figure 2.4 shows Chase's original drawing of the hospital.

When the Civil War started, regular troops across the western frontier were very quickly recalled to the eastern theaters of conflict. In the Civil War, "regulars'" were professional soldiers who had served in the army prior to the conflict. "Volunteers" were soldiers who volunteered to fight for state-raised regiments, but who were not professional soldiers in peacetime. While many western posts were simply abandoned at this time, Fort Hoskins was considered important enough to remain in operation through the entire Civil War. Although in the minds of the white settlers of the state the threat of Indian attack from the coastal reservation remained ever-present, the post in fact remained occupied both for political reasons and to assuage their fears. With a large contingent of southern settlers in the region, it was deemed advisable to keep a strong Union military presence in the state (Brauner and Stricker 1994: 98).

From 1861, Fort Hoskins was manned by companies of volunteer recruits, and the days of the regular army were over. Before the end of the Civil War, volunteer companies from California, Washington, and Oregon manned this isolated frontier post. This period brought not only volunteer soldiers, but also volunteer surgeons as well. As will be discussed in chapters 6 and 9, volunteer medical personnel often differed greatly from their regular army counterparts.

At the close of the Civil War, Fort Hoskins was deemed no longer strategically important, and the U.S. Army decided not to re-establish a regular army garrison at the post. The fort itself was permanently abandoned in 1865, though the Siletz blockhouse remained occupied through 1866 (FHMR, 1865-66). The buildings were auctioned off, and the post was turned into farmland.

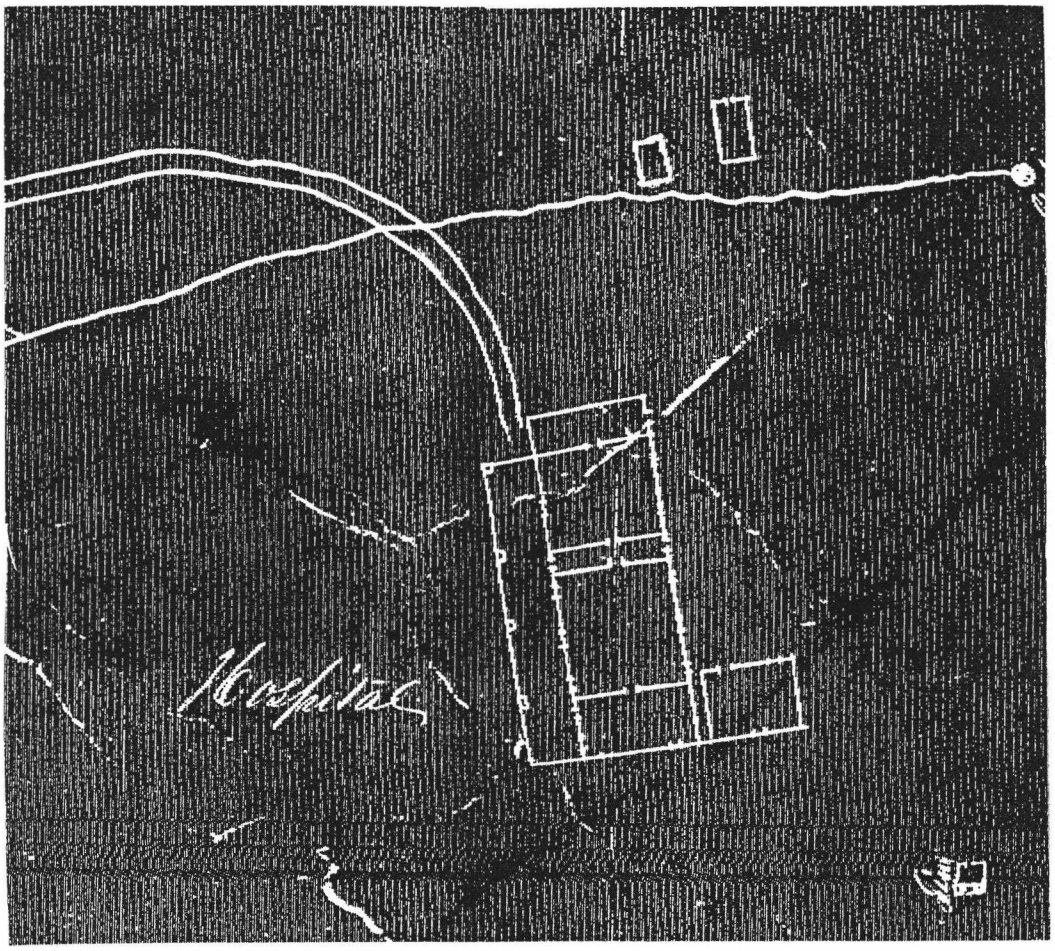


Figure 2.4 Enlarged view of Hospital from Chase Map (National Archives).

CHAPTER 3: AMERICAN MEDICINE, CIRCA 1860

The Infirmary at Fort Hoskins operated within two important contexts, both of which affected the operation of the hospital and directed the daily activities of the surgeons and patients. First and foremost, the infirmary was a military operation, and existed within the U.S. Army Medical Department. Military regulations and procedures governed the daily operations, the code of conduct, and the duties of the personnel assigned to the Infirmary. However, the men in charge of the infirmary were doctors. Educated first and foremost in the arts of medicine, only later would they become familiar with military life. Instead of attending West Point, these men had attended a medical school, and were hired as experts in the field of medical science. In exercising this expertise, they entered into a realm which was very different from the military world. For this reason, any understanding of this typical frontier military infirmary must necessarily begin with an overview of the second context within which it operated; the American medical profession.

The American Medical Profession

American medical practice of the mid-19th century was based on the English and Scottish tradition of medicine. In these two countries, the well established division between apothecary, physician and surgeon began to disappear during the 17th century. The apothecary had traditionally filled the role of pharmacist, stocking medicines, mixing proper combinations of herbs or extracts, and distributing them from his shop. The surgeon's role had been to perform the messy, physical work such as amputation, lancing, trephining, etc. The physician, with his more comprehensive education, was at the head

of the medical profession, examining patients and diagnosing proper treatment (Kett 1968: 2) . The major problem with this neat, orderly division of labor was that in practice a great deal of overlap occurred, and the physicians began to be hard pressed to prove that they alone were competent practitioners of general medicine. Many people went for medical care to whomever was available locally, provided that they held a solid reputation. Much to the chagrin of the physicians, several notable court cases in England in the late 17th and early 18th centuries backed up the surgeon's and the apothecary's right to practice their arts as they saw fit (Kett 1968: 1).

Not surprisingly, these blurred distinctions carried over to England's North American colonies to an even greater extent than in Europe. However, it is erroneous to assume that American medicine was simply a transplanted facsimile of English or European style medicine. As colonies were founded and took hold, formally trained medical practitioners were certainly needed. Unfortunately, a concentrated populace was required to supply the physician with enough patients to make an adequate living. The rural nature of the American colonies worked against this, and as a result, physicians were unlikely to make the journey when opportunities at home were so much more promising. As these early settlements began to grow, formally trained doctors were few and far between. Americans logically turned for medical assistance to whomever was available locally.

This trend continued throughout the 18th and well into the 19th centuries. Americans in rural settings rarely had the luxury of a formally trained physician to turn to in time of illness, and thus "lay" medical practitioners often appeared on the scene to fill the void. In 1744, Dr. Alexander Hamilton, a physician who was trained in Scotland at theCollege of Surgeons in Edinburgh, noted a common example of this during a trip to Long Island.

> [I came across]... a fellow with a worsted cap and great black fists. They stiled him a Doctor. Flat [the innkeeper] told me he had been a shoemaker in town and was a noteable fellow att his trade, but happening two years agoe to cure an old woman of a pestilential mortal disease, he thereby aquired the character of a physician, was applied to from all quarters, and

> finding the practice of physick a more profitable business than cobling, he laid aside his awls and leather, got himself some gallipots, and instead of cobling of soals, fell to cobling of human bodies (Bridenbaugh 1948: 92).

By the start of the 19th century, however, this situation was slowly beginning to change in the more heavily populated eastern American centers of trade. More and more Americans began to travel to England or Edinburgh for medical training, and many more formally trained English or Scottish physicians moved to America. By 1800, more than 100 Americans had received their training at the medical college at Edinburgh, Scotland, and this core group of well educated individuals formed the backbone of the formal medical establishment in America. Not coincidentally, they also considered themselves and their training to be the standard by which competent physicians should be judged (Kett 1968: 9).

This core of physicians formally trained in European medicine began forming medical societies with strict criteria for membership. Such organizations were initially aligned with societies made up of eminent physicians from a particular city or state. Later, as American universities and medical schools were established, these medical societies would often be aligned or connected formally or informally to these academic institutions.

At the urging of groups of formally trained physicians who made a concerted effort to lobby state governments, many legislatures eventually passed licensing legislation in an attempt to set standards for the profession. In New York, South Carolina, Maryland, New Jersey and Connecticut, for example, a license to practice medicine could only be obtained by membership in an incorporated medical society or by passing an examination conducted by such a society. By 1830 thirteen states had passed licensing legislation (Kett 1968: 13).

Medical Schools

Outwardly, it appeared that medical practice in America was well on its way to becoming a standardized, professionally monitored entity. Early in the 19th century, the apprenticeship system had supplied the majority of practicing physicians. Under this system, the medical student would study under the tutelage of his preceptor, generally paying around $100 per year for the privilege. After reading appropriate texts, and slowly being allowed to participate more fully in the physicians practice, the student would be given a certificate which stated that, in the opinion of his mentor, he was competent to practice medicine (Rothstein 1972: 85-86). This haphazard and relatively informal system actually gave some impetus to the rise of credentials legislation, for the apprentice-doctor found that an official state-issued license gave him infinitely more credibility than a mere letter of recommendation. Later, in the early 19th century, the apprenticeship system slowly began to be challenged by the formal medical degree, conferred by a college or university. The demand for doctors led many to the profession, and medical schools proliferated across the nation to meet the demand, as shown in Table 3.1.

These medical schools, however, were a sorry imitation of their European progenitors (Rothstein 1972: 89-92). The proliferation of new schools led to increased competition for a limited numbers of students. A resulting decrease in admissions and performance standards rendered many of these institutions little more than rubber stamp diploma mills. A major failing of American medicine of the 19th century was the poor quality and lack of standardization of these schools. The curriculum was short, only two or three years, with the final year usually devoted to restudying the previous lessons. Course work was limited in scope, and examinations were nowhere near as stringent as in the European schools. No practical experience in chemistry or botany was required, the bulk of medical training being in anatomy and pathology. Even work in these subjects was

Table 3.1 Medical Schools Granting Degrees In The United States (Rothstein 1972: 93)

Year	Number of schools
1800	4
1810	6
1820	13
1830	22
1840	30
1850	42
1860	47

somewhat limited, and in several states, it was actually illegal to dissect a corpse (Rothstien 1972: 90). On these deficiencies, Dr. N.S. Davis, in the *New York Journal of Medicine* in 1846, stated that American medical training would never be of much practical value until the student "actually engages with scalpel in hand, in a patient and practical study of anatomy and physiology...; chemistry in the laboratory; *materia medica* and medical botany in the fields and forests; and clinical practice by the bedside" (Rothstien, 1972: 125).

Due in part to an inadequate education, formally trained physicians were often ignorant of effects and dosages of the drugs they were prescribing. The result of this glaring deficiency was that many doctors, with little practical knowledge of chemistry or pharmacy, would simply use a small number of remedies as cure-all substances, making little or no effort to experiment with different cures for different illnesses. This fact could cause significant problems when coupled with another feature of American medicine; the affinity for the "heroic cure".

In general, the heroic cure school of thought held that the larger the dosage administered, the more efficacious the cure. Formally trained physicians were often little better than the members of the medical sects that they so bitterly opposed and were often dogmatically committed to a limited selection of medicines. Some of these favored medicines containing mercury, lead, arsenic, and other poisonous or harmful substances. It is not surprising that as physicians proceeded to liberally dose their patients with "heroic" gusto, the results were often spectacularly poor. The public outcry began to mount against the heroic cure, alarming many physicians (Rothstein 1972: 27). Opposition to the heroic approach took many forms and came from many different quarters. Oliver Wendell Holmes bitterly, and eloquently, considered the reasons for the heroic philosophy:

> How could a people which has a revolution every four years, which has contributed the Bowie knife and the revolver, which has chewed the juice out of all the superlatives in the English language in Fourth of July orations, and so used up its epithets in the rhetoric of abuse that it takes two great quarto dictionaries to supply the demand; which insists in sending out yachts and horses and boys to out-sail, out-run, out-fight, and checkmate all the rest of creation; how could such a people be content with anything less than 'heroic' practice? What wonder the stars and stripes wave over doses of ninety grams of sulfate of quinine, and that the American eagle screams with delight to see three drachms of calomel given at a single mouthful? (Haller 1981: 68)

The burgeoning discontent of the public did little to change formal medical training, at least for the time being. It did, however, leave the door open for other forms of treatment outside the realm of traditional practice to grow and spread. In the years leading up to the Civil War, major schools of thought arose to challenge the medical establishment, and their popularity and acceptance not only with the public, but to a very limited extent even within the medical establishment itself, represented the death knell for attempts at licensing legislation.

Thomsonianism and Homeopathy

A major factor in the demise of credentials legislation took the form of a challenge to the traditional medical establishment by two major schools of thought, Thomsonianism and Homeopathy, both of which gained popular support and many converts in the first half of the 19th century. While many different philosophies and sects appeared and disappeared on the American medical scene, these two represented important and widespread challenges to traditional medicine to appear in the years just prior to the Civil War.

Thomsonianism derived its name from the founder of the philosophy, Samuel Thomson. His new form of healing practice was a radical combination of medical philosophy and populist sentiment. The basic premise of Thomson's medical philosophy was that all animal bodies were composed of four elements; earth, water, air, and fire or heat, and disease was invariably due to the lessening of heat. Disease was therefore cured by restoring the natural heat of the body, often through the use of steam baths, coupled with the use of red peppers, or indirectly through emetics, purgatives and enemas (Kett 1968:101). Thomsonians especially favored *lobelia inflata*, a common emetic, for the especially striking effects it produced in the patient, causing instant sweating, nausea, and vomiting (Kett 1968: 101). The populist side of the movement was reflected in the belief that the home, not the infirmary, was the proper place for healing and that through simple remedies, every man could function as his own doctor completely outside of the medical establishment.

Thomsonianism reached the zenith of its popularity in the late 1830's, and the best estimates indicate that by 1840, three to four million Americans were being treated by Thomsonian doctors (Kett 1968:106). The movement began to lose favor by the late 1840's, but it represented a serious challenge to traditional medical practices, as well as the usefulness of the medical establishment itself. Its practitioners worked strenuously to

repeal the restrictive licensing laws which, they felt, had been fostered on an ignorant public by greedy physicians seeking to ensure their unfair monopoly on medicine. Thomsonians, and other medical sects, were largely successful. In New York in 1841 for example, state legislative hearings were held on the subject of licensing, the committee concluding, "Men cannot be legislated out of one religion and into another; nor can the Legislature thrust calomel and mercury down a man's throat while he wills only to take cayenne and lobelia" (Rothstien 1972: 45).

Homeopathy became popular after the movement of Thomsonianism had begun to wane. It was based on the principle that the best cures were ones which induced symptoms similar to those of the disease itself. Homeopaths believed that the healthy human body had the capacity to expel morbid disturbances, but its natural restorative processes were temporarily paralyzed by disease. Homeopathic cures usually took the form of mild, diluted solutions of elements or herbs which would generally induce symptoms in the patient which would mimic the effects of the disease itself. This was beleived to help the disease along to maturity, thus spurring the natural "vitality" of the individual to assert itself and expel the chronic maismas from the patient (Kett 1968: 133).

This theory also represented a significant challenge to traditional medical belief. The homeopaths had a set philosophy of disease and how to cure it. They believed that their physicians were more learned in the science of the day than regular physicians, which, at least when it came to herbs and medicines, was almost certainly true. Finally, and perhaps most importantly form the perspective of a public increasingly disgusted with the "heroic cure", homeopaths advocated mild treatment and greatly diluted mixtures. Traditional physicians were put in the unenviable position of having to prove the superiority of their cures, a task that medical science was unable, for the time being, to do.

The Demise of Credentials Legislation

Informally trained medical practitioners represented a significant challenge to the medical establishment, because many people in America received much of their medical care outside of the mainstream of the profession. Trained medical professionals worried that these untrained persons were going to kill patients, and that the medical profession as a whole would be tainted in the eyes of the public. They were also pragmatically worried about the business that they were losing. Formally trained doctors organized and took action. The licensing legislation of the 1830's and 1840's was the result.

The legislation was targeted at empirics and uneducated lay doctors, whom mainstream medicine viewed as quacks. However sects such as Thomsonianism and Homeopathy arose which didn't conform to the commonly held beliefs about non-traditional practitioners. The members of these groups had set theories of disease, and their practices were often much easier on the patient than the heroic cures advocated by mainstream medicine. Against Homeopaths, physicians argued that their approach to medicine was superior because they employed a method of scientific enquiry that freed them from supposed panaceas. Against the populist Thomsonians, they emphasized the benefits of a rigorous education (Kett 1968: 63). The bottom line, however, was that they were unable to prove the superiority of their cures. In the end, the state of the art of American medicine simply was not up to the challenge, and the debate over licensing legislation was lost.

Within a decade, these efforts at standardization had failed miserably, and all but two states had repealed their medical licensing laws. Traditional medical institutions lost the battle over strict licensing legislation because they were unable to effectively prove that the cures they advocated were more effective than the alternatives being provided by their rivals outside the mainstream of medical thought. Disagreements and rivalries within the

discipline itself over curriculum and practices were also a major contributor. All of this eventually doomed the legislative efforts. By 1850, all but two states had repealed these licensing laws (Kett 1968: 13). The society members themselves were publicly humiliated by the failure of the attempted licensing reform, and the entire field of medicine lay open to nearly any enterprizing person who could convince others that they were qualified in the healing arts.

Medical Science

In nearly all facets of wartime medicine, from surgery after the battle, to camp diseases and epidemics, the doctor in the Civil War simply did not posses the knowledge or the medicines he needed to treat his patients. It is interesting to note the comparative lack of progress in the field of medicine as compared to other technologies of the time. Mass production manufacturing techniques, advances in weaponry such as the rifled musket and the ironclad warship, and new methods of logistical support such as the railroad and the steamship, have all prompted historians to refer to the Civil War as the first "modern" war. American technology could arm soldiers with excellent rifles, produce artillery and ammunition in massive quantities, and could get these products to the front faster than in any previous conflict in the history of war. These reasons are often cited as primary causes for the horrendous casualty figures which made the Civil War the bloodiest war in American history. However, another primary cause was the fact that medical science, at the time, was sadly inadequate to deal with the exigencies of a modern war.

Surgical knowledge was limited, and most doctors had only a passing familiarity with minute anatomy. Even some of the better educated doctors during the Civil War admitted after the fact that they had learned the nuances, and even some of the basics of human

anatomy through hard experience on the battlefield (Davis 1888: 79). The philosophy of the heroic cure meant that in the case of battlefield wounds, many surgeons immediately called for amputation. In retrospect, this practice probably killed more patients than it saved. 60,226 battlefield wounds to the extremities, which were treated by the Medical Corps and involved trauma to the bone, were analyzed for relative success of differing treatments. When amputation was used, the fatality rate was 28 percent, but when the injury was left alone and allowed to heal naturally, the fatality rate was only 18 percent (Brooks 1966:102).

The most widely accepted theory of disease was that it was caused by "malignant miasmas", which arose from decaying animal and vegetable matter and spread through the air. Any bad smell was a sure sign of spreading disease, and was to be treated by masking the smell. This theory of disease meant that sterilization of the surgeons hands, instruments, or the patients wounds were not considered essential or necessary. Bacteriology and germ theory were unknown, and medical science had to wait for this important information until the 1870's, when the work of Louis Pasteur gained acceptance (Bynum 1994: 128).

Two-thirds of all Civil War fatalities were caused by disease (Adams 1952: 3). The six diseases which were most deadly were typhoid, malaria, cholera, dysentery, pneumonia and yellow fever. Quinine was available and was used with effect against malaria. Yet even in this case, the doctors of the period were at a loss to explain exactly why the medicine worked, and tended to use it indiscriminately. The surgeons of the Civil War were generally at a complete loss to treat any of the other major diseases of the time.

For the purposes of this study, a modern physician and surgeon was shown the medical pharmacopia available to a Civil War era military surgeon and was asked how she would treat these diseases. With the exception of the utilizaion of quinine, both as a prophalactic and as a treatment for malaria, Dr. Louisa Silva stated that antibiotics would

be used today in each case. She was at a loss to find any of the medicines available to the Civil War surgeon which would have been of any real value in treating typhoid, disentry, cholera, pneumonia, and yellow fever (Dr. Louisa Silva, personal communication1996). In each case, anit-biotics would be used, something which was unavailable to the Civil War surgeon. Thus, while military technology had made significant advances in methods of killing, medical science lagged far behind in methods of healing.

Conclusion

At the start of the Civil War the medical profession was on uncertain footing, divided by internal schisms and confronted with serious external challenges. The grassroots strain which had always been a feature of American medicine was alive and well. Two-thirds of the practicing physicians in the United States still did not hold a formal medical degree, while one out of every ten was a non-traditional sectarian practitioner (Kett 1968: 186). The medical schools themselves were often of poor quality, and their curriculums were small and less than thorough. Through licensing legislation, the attempt had been made to establish professional standards of training and competence. These attempts had failed miserably, due in no small part to the fact that formally trained physicians were generally as helpless in the face of the most prevalent and deadly diseases as were their non-traditional counterparts. The result was that during the Civil War era the basic structure of the medical profession was fragmented, and the most obvious consequence was wildly varying levels of professional competence and training. These differences were exaggerated on the American frontier.

CHAPTER 4: THE U.S. ARMY MEDICAL CORPS

During the mid-19th century, the health of America's soldiers was in the hands of the U.S. Army Medical Corps. Ironically, the greatest strength of the Medical Corps during peacetime was also the source of its most serious deficiency when war started. The Medical Corps was an extremely rigid organization, which allowed it to maintain a generally homogeneous and consistent method of practicing medicine during an era when chaos prevailed in the American medical profession. Strict policies, accepted treatments, and even standard classifications for disease were basically consistent throughout the pre-Civil War period. Doctors in the Medical Corps were on the whole, better educated than the average civilian doctor. Unfortunately, this rigidity left the Medical Corps unable to effectively cope with the difficult new tasks called for by the inception of modern large scale warfare. At Fort Hoskins, even during the period of volunteer company occupation of the post, all medical officers practiced their trade under the authority of the Medical Department, making an understanding of this organization key to interpreting their actions, treatments, and relative success.

History of the Medical Corps

In 1818, Congress passed a bill which reorganized the staff departments of the U.S. Army. As part of this bill, the Medical Department of the Army was created. Prior to this time, surgeons had served in the army, mainly during the Revolutionary War and the War of 1812. During peacetime, there had been only a few post or regimental surgeons who also served. These men, however, had no common organization or leader. With the bill of 1818, this situation was rectified. The bill provided for a medical department and

for a Surgeon General. When the Army was reduced in 1821, Congress further clarified that "the Medical Department shall consist of one Surgeon General, eight surgeons, and forty-five assistant surgeons" (Ashburn 1929: 39-40).

The first Surgeon General appointed was Joseph Lovell, a veteran of the war of 1812. Lovell shaped the Medical Department from the ground up, defining the organization and determining the duties of its members. The General decided that each surgeon should prepare a quarterly report, informing the Medical Department as to the numbers of sick and wounded, the nature of each illness, the treatment adopted, and the medicines and stores which were most needed. In addition, he demanded a diary report of general information which was to include the 'medical topography' of posts, descriptions of the most prevalent diseases and their probable causes, and, interestingly enough, detailed observations and records on weather and the general climate (Ashburn 1929: 40). Thus, medical officers became the official weather recorders for the Army, a practice that continued through the Civil War.

From the time of its inception in 1818, the Medical Corps changed very little. Its leadership consisted of capable, if uninspired men, who were content with carrying out their duties and preserving the status quo. Little effort was made during this time to improve the capability or direction of the medical service. The ambulance and field hospital system was antiquated at best, and there were very few means for weeding out incompetent surgeons, a situation that would not change until the Civil War was well underway. It is revealing that as much, if not more effort was put forth by the leadership of the Medical Corps in disputes with the military hierarchy, most of which concerned matters of rank, privilege, and uniform type, than was directed towards improving the Corps itself. A complacent adherence to the status quo, and a distinct lack of attention towards improving policy, practice or procedure characterized the state of the Medical Corps in the pre-Civil War period.

During the first five years of regular army occupation at Fort Hoskins, the chief of the Medical Corps was Colonel Thomas Lawson. One of the biggest problems facing the Northern Army at the beginning of war was the seniority promotion system. Officers were promoted solely on the basis of time in service. With no pensioning or retirement pay system, many stayed in the service long after their usefulness to the Army was exhausted. Colonel Lawson was a prime example of the results of such practices. An octogenarian, Lawson was a veteran of the War of 1812 whose war experience took place before the Medical Corps even existed. Through seniority, he ascended to his position during the administration of John Quincy Adams, and a long regime gave ample time for his limited vision and moribund ideas to thoroughly shape the corps into a reflection of its commander (Adams 1952: 4).

During his time as Surgeon General, Lawson concentrated his efforts in two main areas, neither of which was to improve the Corps as a whole. The first area of focus was the battle for rank and privilege which he fought against the rest of the army, securing in 1847 the passage of the act which required, among other things, that doctors be addressed by their military rank (not simply as "doctor") and be able to wear formal military insignia denoting their rank. The second area General Lawson concentrated on was the monetary efficiency of the Medical Corps, and he spent much of his time in a running battle to trim the budget. He felt that medical books were an expensive and unnecessary item and he reportedly became incensed upon learning that one post actually had two complete sets of surgical instruments (Adams 1952: 4). It is therefore not surprising that when the Civil War started, the Medical Department's efforts proved spectacularly disasterous. The department as a whole was ill-trained, ill-equipped, and understaffed, and proved generally inadequate to deal with the medical realities of modern warfare on a vast scale.

Reformations during the Civil War

The opening phases of the Civil War came as a rude awakening to the Army, as well as the nation at large. The huge casualty counts and the distinct lack of success of northern Armies began to strip much of the luster from a romanticized ideal of a quick, easy, glorious war. These first large scale actions brought the inadequacy and obsolescence of the Medical Corps into sharp focus. The public was particularly fearful after the dreary reports of the first battles, along with their shocking casualties and the horror stories of the inadequacy of medical treatment on the battlefield. The horrific toll from disease suffered by the British and French during the Crimean war had been given strong play in United States newspapers, and many feared a similar debacle was about to take place. Thus, in 1861, the United States Sanitary Commission was founded, created by civilians, at the behest of civilians, "...working with (the Government) and doing what it cannot" (United States Sanitary Commission 1863: 3).

The Sanitary Commission was originally intended as a women's organization wherin volunteers could assist in the treatment and care of wounded soldiers. It was also intended as an advisory commission on sanitation, to help prevent the encouragement and spread of disease. Partly because the Medical Department was completely and obviously overwhelmed by the exigencies of the war, and partly through political influence, the Sanitary Commission became much more than simply a helpful group of well-intentioned volunteers. Signed into official being on June 13, 1861 by President Lincoln, the commission received broad powers of investigation and advice (Adams 1952: 8). Their initial investigations tell us much about the medical situation faced by the army in the early years of the war. To a large extent, the Sanitary Commission was responsible for entirely reshaping the Medical Department, in matters ranging from organization and policy, to field practices and even promotions within the service.

One of the first suggestions of the Sanitary Commission was that a man of real ability be placed at the head of the Medical Department, seniority or no. Through much political maneuvering, the Sanitary Commission managed to have William A. Hammond promoted to the position. Although Hammond lasted less than a year and a half due to personal difficulties with Secretary of War Simon Cameron, his appointment and subsequent time in office reshaped the Medical Department in significant ways (Wiley1972: 29). Hammond eventually recommended a long list of reforms to the War Department, such as immediate increases in the numbers of regimental surgeons and the ability to appoint medical cadets. Hammond also pushed for medical inspection reform, both to cull out disabled and sickly soldiers from the ranks, and to weed incompetent surgeons from the ranks (Adams 1952: 35). He also worked for organizational reforms within the Medical Department, one of the most outstanding of which was a restructuring of the ambulance and field hospital system. Based on a model devised by one of Hammond's appointees, Dr. Jonathan Letterman, the medical director of the Army of the Potomac, this system was so logical and efficient that it was copied by many armies around the world, and remained largely unchanged through World War One (Adams 1952: 33). Unfortunately, and somewhat typically, opposition delayed implementation throughout the Army as a whole until 1864.

Slowly, hindered by opposition from within as well as from without, the Medical Department began to modernize and in general it steadily improved throughout the course of the Civil War. At Fort Hoskins, the volunteer surgeons who served at the post were still under the authority of the Medical Department, but the changes which reshaped and improved battlefield medicine in the east had little effect at this isolated frontier post. There were very significant differences between the medical problems facing the armies in the east, and the challenges facing a surgeon serving on the frontier.

CHAPTER 5: LIFE ON THE FRONTIER

From the time of the Revolutionary War, distrust of a standing army permeated American political consciousness and shaped national policy in military matters. The "citizen soldier" of the militia was seen as the best way to avoid the potential for tyranny that a standing army represented, and was seen as one of the cornerstones of the Republic. It is therefore remarkable that barely 70 years after the Revolutionary War, the United States would maintain a standing army that averaged about 14,000 soldiers. (Utley 1967: 19) With the exception of the Civil War period, the entire reason for the existence of this considerable force was America's western frontier, and a situation created by the political exigencies of an expanding nation and populous.

Manifest Destiny and the Role of the Army

In the early 1830's and 40's, political orators placed the idea of Manifest Destiny into the forefront of the American national agenda. The previous policy goal of a "Permanent Indian Frontier", policed by a line of military forts which would forever provide safety and security for Indians from white encroachment, was pushed aside or conveniently ignored. "Manifest Destiny" created the powerful image of the western territories as open lands of opportunity just waiting to be exploited. Lured by the agricultural possibilities of Oregon, California and Texas, settlers began moving westward in ever increasing numbers. The discovery of gold in California in 1848 turned the trickle of settlers into a deluge, and in the decade of the 1850's, the population of the west increased more than threefold (Ultley 1967: 4).

This massive influx of people placed the Native Americans living in the west in an untenable position. Diseases such as small pox, yellow fever, and cholera wreaked havoc

within their population. In many areas, traditional hunting grounds became less and less productive, as white hunters or settlers passing through depleted the numbers of game well below their natural levels. Finally, permanent white settlement on the traditional ranges of many tribes forced some Native Americans to take outright action. Faced with an ever increasing threat, Native Americans had only three choices; attempt to accommodate the settlers, resist their depredations with force, or surrender (Utley 1967: 5).

The management of this volatile, constantly changing situation fell to the U.S. Army, and the mission to police the west would define the role of the U.S. Army for nearly 50 years. Few leaders in Washington ever fully realized the logistical and political realities which "Manifest Destiny" implied. The vast stretches of sparsely populated lands did not lend themselves easily to a policing mission. Congress was consistently unrealistic with appropriations, willing to delegate the task of policing the west to the Army, but never willing to give the Army what was needed to accomplish the task. They could never be convinced of the manpower, supply, and expenditure requirements which such a mission required, and the lot of the Army on the frontier was that of a constantly undermanned and under supplied force which was never really adequate for the mission they were being asked to carry out (Utley 1967: 9-17).

The failure to establish a coherent, unchanging Indian policy coupled with Washington's inability or unwillingness to live up to the many treaties which were signed guaranteeing lands, payment, goods, etc., also made the Army's job even tougher. The public and their politicians didn't give much attention to the problem of white encroachment on Indian lands until such actions precipitated violence, then the outcry was for the Army to put down the "insurrection". Despite public perception that the main role of the Army in the west was to protect the white settlers, in actuality, their role was often to enforce boundaries established by Washington, protecting the Indians from white encroachment as much as protecting the whites from the Indians.

This was the role that Fort Hoskins was to play on the Frontier. Captain Christopher C. Augur, fresh from an altercation with the Rogue River Indians, established Fort Hoskins in 1856 as part of the three fort system of Fort Yamhill, Fort Hoskins, and Fort Umpqua. For nine years, soldiers stationed at this post worked in and endured the typical conditions of frontier garrison life.

Soldiers' Life on the Frontier

The pre-Civil War Army was spread thinly across the entire United States, and accounts of the lives of soldiers of the period indicate a certain uniformity in the frontier experience. Although environmental conditions might differ greatly between a cold, wet, muddy post in western Oregon and a hot, dry, barren post in the southwest Texas desert, certain constants of army life could always be counted on. The food was generally poor, as nearly every soldier's diary from this era will attest. Supply lines to isolated frontier posts were long and expensive to maintain, leaving soldiers to either consume rations which were old and often rotten, or to scrounge whatever food they could find which was locally available. The typical diet was built around the mainstays of salt pork, beef, beans, and hard tack, and it is little wonder that an average of 72.65% of the army was affected each year by some form of digestive ailment (Breeden 1977: 373).

Hard work was also a regular part of the soldier's life. The process of establishing and then maintaining a frontier outpost required continual physical labor. After visiting the department of Texas in 1853, one inspecting officer noted that "I found military instruction invariably subordinated, perhaps necessarily, to the labors of the axe, saw and hammer" (Breeden 1977: 365). Activities such as building roads, chopping wood, or performing regular maintenance on living quarters which were usually of poor construction took its toll on soldier's health. From 1849 to 1859, one-third of the annual

mean strength of the army was treated each year for some form of physical trauma (Breeden 1977: 373-375).

Boredom was also a regular part of life on the frontier, and the grinding monotony of a strictly regimented daily schedule could make life at a frontier post nearly unbearable. In contrast to the romanticized image of the "Indian fighter", the typical soldier on the frontier would only see actual combat an average of once every five years. Post medical records and discharge records suggest that depression was common. At Fort Hoskins, three soldiers were treated for what the attending surgeon diagnosed as "Mania", and one was shipped to an insane asylum in Washington D.C. (Fort Hoskins Sick Book [FHSB], May,1861). Quarterly Reports of Sick and Wounded for the department of the Pacific indicate that these were not isolated occurrences. At Fort Vancouver, one soldier was dishonorably discharged for purposely shooting himself in the foot, while others were dismissed or brought up on charges for chronic drunkenness (Quarterly Reports on Sick and Wounded, Department of the Pacific). Gambling and alcohol were the preferred means of combating boredom.

Alcohol was a seemingly inevitable part of frontier army life. Dispised by officers for its detrimental effect on discipline, and considered by surgeons to be a major cause of health problems, drinking was nonetheless one of the few recreational options available to the common soldier. Alcohol was present at seemingly every post, despite frequent attempts by commanding officers to enforce abstinence. At Fort Hoskins, official or unofficial bans on alcohol were present during most of the active life of the post, however 42 cases of "Ebrietas", or drunkenness, are recorded in the Sick Book, as are eight cases of "Delirium Tremens" caused by alcoholic withdrawal (FHSB, 1857-1865). Diaries from the post include almost weekly references to the use of alcohol, as well as a constant presence in the guardhouse of men who committed various offenses while under the influence (Hilleary 1965, and Bensall 1959).

Comparing Frontier and Battlefield Medicine

> Most of the operating tables were placed in the open where the light was best, some of them partially protected by tarpaulins or blankets stretched upon poles. There stood the surgeons, their sleeves rolled up to their elbows, their bare arms as well as their linen aprons smeared with blood, their knives not seldom held between their teeth, while they were helping a patient on or off the table or had their hands otherwise occupied... As a wounded man was lifted on the table, often shrieking with pain as the attendants handled him, the surgeon quickly examined the wound and resolved upon cutting off the injured limb. Some ether was administered and the body put in position in a moment. The surgeon snatched his knife from between his teeth..., wiped it rapidly once or twice across his bloodstained apron, and the cutting began. The operation accomplished, the surgeon would look around him with a deep sigh, and then- 'Next!"
>
> -General Carl Schurtz describing an operation at Gettysburg (Adams 1952: 118).

The horror of the Civil War era field hospital has been a strong and recurring theme in popular literature, scholarly works, and in the many documentaries and films that have been made pertaining to this period. The image of the blood-stained surgeon indiscriminately hacking off limbs by the dozen in a crowded field tent has been so strongly ensconced in the public imagination that it is usually the first thought that comes to mind when Civil War era medicine is mentioned. Unfortunately, the image is misleading; the real killer of the Civil War was disease. A soldier was three times as likely to die from disease as from wounds received in combat. In fact, more soldiers died from diarrhea alone than died from gunshot, bayonet, and cannon wounds combined (Adams 1952: 3). Much of the blame for the high instance of illness related deaths can be attributed to the simple fact that medical science had yet to discover bacteriology and germ theory. Yet aside from the relatively primitive state of medical knowledge at the time, other important factors contributed to the number of deaths from disease. Many of these, contributing to the lamentable situation in the east, were also present on the frontier.

There were significant differences, however, between the situation faced by an army surgeon on an eastern battlefield and one stationed at a small western outpost. This is an obvious, but important distinction to make, because most scholarly work on Civil War era medicine has been concentrated almost exclusively on topics relating to the eastern armies and battlefield medicine. Medical practice, health issues, and daily life on the frontier often bear little resemblance to the picture in the east. The following examples discuss why the reforms within the Medical Department had little or no effect on medical care at Fort Hoskins, and help to illustrate the difference between medicine on a battlefield and medicine on the frontier.

Modernizations undertaken by the Medical Department during the course of the war significantly improved the quality of medical care a wounded soldier would receive on the battlefield. In the initial stages of the war, the aforementioned lack of proper field organization and facilities, the overwhelming numbers of wounded compared to the number of trained surgeons and support personnel to deal with them, as well as the primitive state of the art of medicine at the time all contributed to the large numbers of deaths related to battle. Although the medical department had been totally overwhelmed by the exigencies of a modern war in the beginning, gradual changes and improvements greatly enhanced the Medical Departments ability to care for wounded soldiers in the east.

At Fort Hoskins wounds were common; but serious, life threatening injuries were a fairly rare event. Fort Hoskins suffered a slightly higher rate of injury than the peacetime U.S. Army (FHSB, Breeden 1979), but most were fairly minor industrial type accidents associated with chopping wood, working with wagon trains, and the other usual physical activities required by daily camp life. In addition, there were also a number of alcohol related stabbings and fights. None of these wounds, however, were serious enough to lead to the death of a soldier. Thus, while the Medical Department's wartime improvements in organization and in the field ambulance system, as well as an increase in

the numbers of medical personnel, did much to improve the situation in the east, these efforts had little or no effect on the medical situation at Fort Hoskins.

Many problems also occured as a result of improper or non-existant medical examinations of troops entering service. Another improvement was that the Medical Department began to put increasing emphasis on ensuring that soldiers passed a rigorous medical examination upon entering service. At Fort Hoskins, the health of the troops upon entering service was apparently quite good, especially compared to the east. The regular army troops were experienced, seasoned men by the time they arrived at Fort Hoskins. When the volunteer troops took over, they came from the west and generally were hardy fellows whose civilian occupations (many were miners or farmers) had toughened them sufficiently for the army. Very few soldiers were discharged from the post for chronic health reasons. The generally good health and fitness of this pool of recruits resulted in the fact that soldiers serving at Fort Hoskins never suffered the fatalities caused by, or aided by, chronic diseases which took their toll on the eastern camps early in the war.

The Sanitary Commission also determined that inexperienced volunteer officers, often would preside over regiments where even the most basic of sanitary precautions were seldom followed (Wiley 1972: 128). Either through ignorance of standard procedures or through a lack of discipline, many of the newly formed Volunteer regiments suffered appalling rates of disease for the simple reason that when living in the field, men were relieving themselves in and around camps with little or no regard for the officially prescribed method of digging field latrines at a pre-set distance from living areas. Often bivouacked for months at a time in the same area, this practice was severely detrimental to the health of a regiment, as drinking water would soon become fouled. Eventually, as quality officers gradually came to the fore and as the men themselves learned through hard experience, the sanitary condition of the camps in the east slowly improved through the war (Wiley 1972: 128).

The situation at Fort Hoskins was nearly as ideal as that in the east was poor. The first commander at the post, Colonel Christopher C. Augur, was a regular army officer and a strict disciplinarian. Latrines were dug at proper distances, and camp sanitation and cleanliness was maintained throughout the active life of the Fort. In addition, Fort Hoskins was well placed in regards to drinking water. A local fresh water spring located above the post supplied the soldiers with clean, sanitary fresh water delivered by lead pipes to the fort buildings. These simple factors allowed Fort Hoskins to avoid the massive problems of contagious diseases spreading through the water supply which plagued many eastern regiments. It is instructive to note that while an average of 72% of the annual mean strength of the U.S. Army suffered from some form of bowel complaint in a given year (Breeden 1977: 388-389), medical data from Fort Hoskins records a comparatively small rate of 36% affected per year (FHSB, 1857-1865).

The hardships of life in a combat zone also unquestionably contributed to deaths and diseases suffered by eastern armies. Immune systems weakened by exposure, long marches, and stress are especially susceptible to illness. A poor, unvarying diet may also cause a weakening of the immune system, or can result in scurvy. In comparison, duty at Fort Hoskins, while not easy, was certainly less debilitating than long marches and exposure to the elements on a daily basis. The men had the added benefit of sleeping with a roof over their heads every night, thus avoiding the fatigue that undoubtedly fatally weakened the immune systems of many of their eastern counterparts. The diet of the men was varied and generally nutritious, supplemented by vegetables they grew themselves or bought from local farms in the King's Valley (Schablitsky 1996: 76). Finally, if a soldier took ill at Hoskins, he could rest and recover in the post infirmary under the care of the post Medical Officer and the Hospital Steward until he was fit to return to duty.

CHAPTER 6: MEDICAL PERSONNEL ON THE FRONTIER

When the Civil War began, a vast shifting and restructuring of troops occurred across the western frontier. The enlisted men and officers of the regular army were in tremendous demand, and posts in the west contained the majority of the officers and men in the army who had actually seen combat, fighting in the Indian wars. With great rapidity, these soldiers were transferred to the battlefields of the east, and an important change occurred throughout the west. Many of the smaller posts were simply closed, having apparently outlived their usefulness. Other posts, such as Fort Hoskins, were deemed of enough strategic value to warrant the replacement of the regular troops with companies of volunteers raised in the west. After the start of the war, Fort Hoskins was occupied by a succession of volunteer troops from California, Washington, and Oregon before being abandoned in 1865-66. In this regard, the personnel situation at Fort Hoskins is typical of many of the small, pre-war army posts in the west.

Fort Hoskins also provides interesting examples of the various medical personnel a soldier on the frontier might encounter. During the Civil War and pre-Civil War era, a soldier on the frontier might receive official medical care from any of four major types of personnel: a career regular army doctor, a volunteer company doctor, a hospital steward, or a contract surgeon (hired locally by the army in the event that no surgeon is present at the post). Examples of all four types of medical personnel serving on the frontier are found at Fort Hoksins. In addition, there were periods when no post surgeon was present, and no contract surgeon was available. This meant that at one time or another, each of the four types was not only present at Fort Hoskins, but was actually in charge of all medical care at the post. Any generalization about the medical care at Fort Hoskins must therefore be made with caution, and a complete picture requires examining each of the four types of medical personnel individually.

Regular Army Surgeons

In 1859, the Medical Corps made up less then 1% of the total Army. The officer corps totaled 113 doctors, spread mostly throughout the west and midwest, of which 30 individuals carried the rank of surgeon, and 83 were assistant surgeons (Adams 1952: 4). It should be noted that the term "assistant surgeon" was more a product of rank and the seniority system then a reflection on the actual duties of the person in question. In practice, such men were almost always completely in charge of the medical facilities at a given post, were referred to as the "Post Surgeon" in official correspondence, and were in reality "assistants" to no one. The Regular Army Surgeons Kit is shown in figure 6.1. Regular army physicians, and the Medical Corps as a whole, represented many of the best and worst aspects of contemporary American medicine. The older men in the service would have received their medical training on an apprenticeship basis, with only a small number of them having gone through the "formality" of a medical school. Much of the senior leadership of the Medical Corps was made up of these men, secure in their positions and entrenched in their philosophy of medicine.

The younger generation of doctors was more formally educated. Most attended a medical school and would at least have had to earn satisfactory marks in their classes before they earned an official degree. In addition, some doctors conceivably would have also undergone a formal examination by the Medical Society of a given city or state. Unfortunately, while this was certainly an improvement on the level of training their elders had received, it still falls desperately short by any modern standards and should be judged in light of the state of medical schools of the time. The standard course of instruction consisted of a total of two years, with the second year mainly being a repetition of the first. Little laboratory or clinical instruction was given, and in many

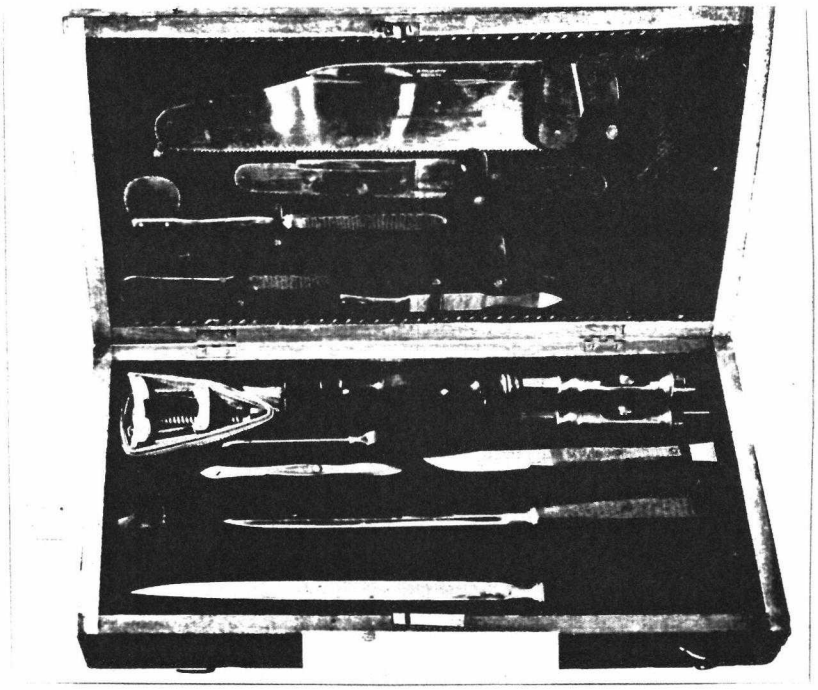


Figure 6.1 Regular Army Surgical Kit

states the dissection of a cadaver was actually a crime (Adams1952: 50). In addition, instruction in pharmacology was limited at best, and many of these schools were little more than diploma-mills, where a student would simply put in his time in order to earn a degree. Thus, while the attainment of a medical degree was certainly an improvement, it by no means assured the competency of the bearer of the certificate.

Once a doctor entered military service, the system of promotion by seniority coupled with the lack of any formal inspection apparatus on the part of the Medical Department

meant that there was very little incentive to continue one's medical education. It is important to note that despite this fact, many of the best regular army surgeons continued to attempt to improve their knowledge. European medicine was ahead of its American counterpart during the mid-nineteenth century, and one of the most common ways for doctors to improve their knowledge was to read foreign medical texts and articles. On the other hand, it was also entirely possible for a surgeon of minimal skill and knowledge to have an entirely successful military career, and a systematic attempt to cull these men from the service didn't actually take place until the middle of the Civil War.

The regular army surgeon could therefore be an excellent, well trained (for the day) and conscientious surgeon. Although poorly trained in pharmacology and anatomy, he could give each case his utmost attention, and could treat his patients to the best of his ability. On the other hand, he could securely serve out his time an ignorant, poorly trained, and worst of all, uncaring physician. A classic example of the latter type is related by the following reminiscence of a Union Major:

> The regular prescriptions were numbered six, nine, and eleven, which were blue pill, quinine, and vinum. We soon learned that "vinum" meant either wine or brandy. I have seen men count from right to left, "six, nine, eleven- six, nine, eleven- six, nine, eleven," and step into the line just where "eleven" would strike. It was a sure thing, since the surgeon gave in regular order, as the men filed past him, something as follows: "Well, what's the matter with you?" "I don't know, Doctor, I've got an awful pain in my bowels; I guess I've got the chronic diarrhea." "Let's see your tongue! Give him number six! Next, what's wrong with you?" "I was took with an awful griping pain in my bowels- guess I've got the chronic diarrhea" "Give him number nine! Next, what ails you?" "I've g-g-got an almighty b-b-bellyache, g-g-guess I've got the chronic d-d-diarrhea." "Run out your tongue! Give him number eleven!" (Wiley 1972: 138)

Despite all of the negatives associated with the state of medicine at the time, and despite the certain presence of poor surgeons in the service, it is important to note that on the frontier, with the ever-critical shortage of trained physicians, military surgeons were still some of the most qualified and skilled medical men available. In Oregon, as in many western states, physicians who first came to the area in a military capacity often decided

to stay once their service was over. Many of these men later attained high reputations in civilian practice, and became some of the most successful and influential doctors in the region.

Volunteer Company Surgeons

With the outbreak of hostilities, a desperate need arose for qualified medical personnel. By the end of the war, more than 12,000 doctors had served the Union Army in one capacity or another, an astounding number considering that the 1860 U.S. census listed a total of only 55,000 physicians and surgeons, both North and South (Blustien 1972: 25). Volunteer company surgeons, who were granted their commission not by the President but by the Governor of their respective states, represent the single largest category of military doctor to serve during the Civil War. A total of 2,109 surgeons and 3,882 assistant surgeons eventually served with volunteer regiments in the Union Army before the end of the war (Adams 1952: 47). Figure 6.2 Illustrates volunteer surgeons in typical field dress.

The great haste to raise troops during the first year of the war led to some serious difficulties. For instance, at the beginning of the war, many states would offer a commission of Colonel to anyone who could raise the minimum number of men to form a regiment. That person, in turn, would offer a Captaincy to anyone who could raise for him the equivalent of a company of men. These rank and file men were seldom given a medical examination, and when they were examined, it was nothing more than a cursory job. After one of the earliest investigations by the newly formed U.S. Sanitary Commission, Frederick Olmstead reported that very few regiments had even bothered to administer physical examinations to new recruits and that when they did, the examination was "mere pretense" in 58% of the cases (Adams 1952: 11). In circumstances like these, it is not surprising that the Sanitary Commission initially found that 20% of the total

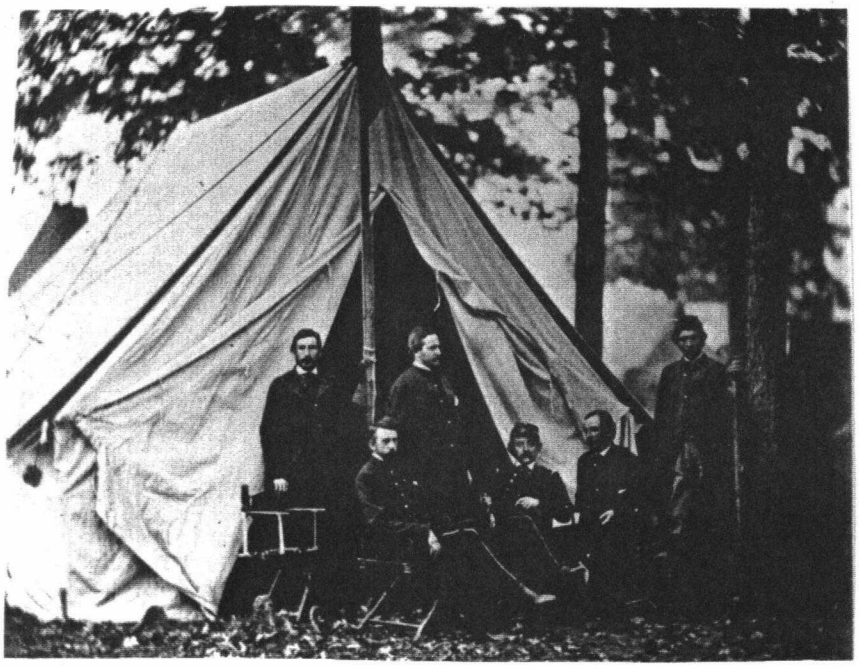


Figure 6.2 Volunteer Surgeons in the Field, 1862. No known pictures survive of any Physician who served at Fort Hoskins (Library of Congress photograph)

number of men incapacitated in Union hospitals were there due to disabilities or diseases they had contracted before they ever entered military service and which should have been easily detected by a cursory medical examination (United States Sanitary Commission 1863: 36-37).

The situation of the recruitment of volunteer surgeons into the service neatly parallels that of the troops. States badly needed medical personnel to assign to their newly formed companies and regiments, and a less than thorough examination of the qualifications of these men allowed a number of ill-trained, uneducated, incompetent surgeons to make their way into the service. Once there, the military was initially loath to remove them because there were not enough surgeons as it was. The practice of keeping men in the

service who had no formal medical training was even defended on the basis that "neither in civil nor military practice... any more than in any other avocations in life, is scholarship the measure of real ability" (Adams 1952: 10).

Given the radical differences in medical philosophy and the state of near anarchy of the medical profession in the United States at the time, it is hardly surprising that the practices and beliefs of some of these men were at odds with the practices of the Medical Department. Kett estimates that from 1835 to 1860, about 10 to 12 percent of the doctors in the United States were sectarian non-traditional medical practitioners, with Homeopathy being the single most common type of alternative medicine within that group (Kett 1968: 185). The regular army surgeon was, generally, conservative and traditional in his approach to medicine. The Army Medical Corps looked very unfavorably on non-traditional forms of medicine such as Homeopathy or Thomsonianism, and the practitioners of such had been exceptionally unlikely to receive a commission before the war. Either through a commission in a state regiment, and even through a commission into the regular army, some of these men evidently made it into military service after the start of the war. For instance, although the Surgeon General's office stated that Homeopaths "are not considered by this Department eligible or fit to be entrusted with the great responsibility of the health and lives of our brave soldiers", it was also allowed that some of these men were evidently currently serving, as some "Homeopaths have been examined and passed on the supposition that they were allopathists." (formally trained medical men who advocated a gentler approach to medicine, blending some Homeopathy with a traditional medical approach) (Blustien 1972: 30).

One of the earliest reforms recommended by the Sanitary Commission was a system of examination to weed out incompetent surgeons. The attempt to establish and enforce professional standards for Army doctors caused tremendous confusion and acrimony within the Medical Department. Many regular army surgeons who had spent years in the

service were simply not equipped to pass a rigorous professional examination. Many of the volunteer surgeons who were currently serving were likewise ill-equipped to pass inspection. One Doctor in charge of such an examining board wrote to the Medical Department after the emphasis on more stringent examinations for medical personnel were being implimented. He wrote regarding men currently serving in the field, and who had been doing so satisfactorily for some time, to ask the revealing question of what he should do about these volunteer surgeons who were:

> ...well informed in the practical portion of Surgery and Medical Practice- who are men of sound mind- good judgment and who have become perfectly familiar with the routine of duty... and have always given satisfaction... but are not well informed in Chemistry, Minute Anatomy, Physiology and Pathology, and perhaps not fully informed in Materia Medica" (Blustien 1972: 36)

As the Sanitary Commission cracked down on the states to rigorously examine all applicants for medical commissions in volunteer units, and as incompetent surgeons were slowly weeded out of the service through boards of inquiry, the quality of Doctors in the service steadily improved. It should be noted that the incompetent volunteer surgeon was the exception, rather than the rule. Generally, with the possibility of a lucrative private practice which would undoubtedly pay more than the Governments wage, the very best doctors had little incentive to join the military before the war. After hostilities began, some of the most skilled physicians in the entire army were volunteer surgeons who gave up their private practices to serve.

Distinctions Between Surgeons

As the regular army companies began to transfer to the east, the impact of the arrival of state-commissioned volunteer surgeons, and the change from the regular army doctors,

is hard to gauge. While most Volunteers came into the service totally ignorant of army life and the requirements of military medicine, most were already established, experienced, and successful in civilian practice. Most adapted surprisingly well. However, competence varied tremendously from doctor to doctor, as did personal preferences for medicines and treatments. The ranks of the volunteer surgeons were even more of a mix of individual talents and aptitudes than were the ranks of the regular army surgeons. Nevertheless, some generalizations can be made about the volunteer surgeons and their differences with regular army surgeons.

The pre-Civil War army surgeon was generally very traditional and orthodox in his approach to medicine, a practice which was encouraged by the strict, moribund framework of a Medical Corps which had little use for new ideas. While the volunteer surgeon was also likely to have an orthodox philosophy of treatment, the percentage of non-traditional practitioners within their ranks would have been much higher than in the regular army. A very strict attention to military protocol, and in particular to military record keeping, cost accounts, and correspondence, typified the pre-war army surgeon. Volunteer surgeons, on the other hand, were often disdainful of the military "red tape", and were generally considered (by the regular army) to be deficient in their attention to records and requisitions. Volunteer surgeons, usually having been accountable only to themselves in civilian life, often had problems adjusting to following orders, either from their immediate superiors at their given post, as well as directions on procedure and treatment from the Medical Department.

It is interesting to note that initially, each group seized on the most negative example possible of the other, and formed a stereotype which would remain strong in their minds during the first years of the war. Never completely disappearing, these stereotypes gradually lessened through time and experience. The volunteer surgeons were well aware of the initial dramatic failures of the Medical Corps. The unpreparedness of the regular army medical corps and its inability to cope with a large scale war were well publicized

and raised considerable public outcry at the time. Many volunteers, fairly or unfairly, considered themselves professionally superior to regular army surgeons. They believed that the early war record showed that the regular army men had obviously spent their previous time stagnating in comfortable but unchallenging frontier outposts. Furthermore, many held that these men had chosen a military life because they were not good enough to become successful in private practice.

The regular army surgeons, on the other hand, looked at the volunteers as country quack doctors. Most of the younger generation of army surgeons had attended a medical school, and since only about one in three doctors in the entire U.S. held a formal medical degree, the regular surgeons looked at the volunteers as ignorant and untrained. The presence, though relatively small, of non-orthodox practitioners among the volunteer ranks, as well as the volunteers disdain for bureaucracy and their resulting struggles with the military supply system, all added to this stereotype. It is interesting to note that western volunteer surgeons apparently had an even lower reputation among the regulars than did their eastern counterparts (Adams 1952: 52). Although this situation was to slowly change, it appears that even after their competence was judged more than satisfactory by Medical Inspectors, western volunteer surgeons still retained somewhat of the "simple, ill-educated country doctor" stigma among their eastern brethren.

It is not surprising, therefore, that the regulars and the volunteers within the medical corps often had trouble getting along. In the east especially, there were frictions from the outset between regulars and volunteers. Initially, the volunteer surgeons were not even considered part of the Medical Corps, the attitude being that they should generally fend for themselves. This led to supply and organizational squabbles, and sometimes to much more serious problems. During some of the early battles, there were actually instances where a surgeon from a volunteer regiment would refuse to help soldiers in need of medical attention on the grounds that they were not from his own volunteer regiment, or even from his own state. Soon, it was decided that all surgeons, volunteers or not, needed

to be organized into one cohesive body. For the rest of the war, volunteer and even contract surgeons were members of the Medical Corps and functioned within that framework

Hospital Stewards

In many ways, hospital stewards were the backbone of the Medical Corps. They were enlisted men who assisted the post physician in all facets of hospital operation. Along with performing all of the mundane work associated with keeping a hospital operating and sanitary, hospital stewards were also required to be familiar with drugs and pharmacy, operations of minor surgery and care of wounds, and were usually skilled at the beaurocratic paperwork required to keep a hospital well supplied with equipment and stores. Hospital stewards obviously figured prominently in the daily operations and medical practice at any infirmary. The formal uniform of a hospital steward is shown in figure 6.3

The rank of hospital steward was equal to that of an ordinance sergeant, and was above that of a first sergeant of a company. This rank entitled them to the obedience of all enlisted men, whether patients, ward masters, nurses, or civilian employees, who were in the hospital. In theory, these were men who had been druggists in civilian life, and therefore had a practical working knowledge of pharmacology. For their expertise, hospital stewards were paid more than the average enlisted man; 22$ per month before the war, and 30$ per month after 1862 (Woodward1863: 13,16). These men often commanded a great deal of respect within the ranks due both to the fairly rigid criteria for entrance and to their considerable responsibilities. During the pre-war years many medical students chose to enlist as hospital stewards to supplement their medical training. Considering that before the Civil War the minimum term of enlistment for a hospital steward was five years, these students obviously felt that the training they would receive

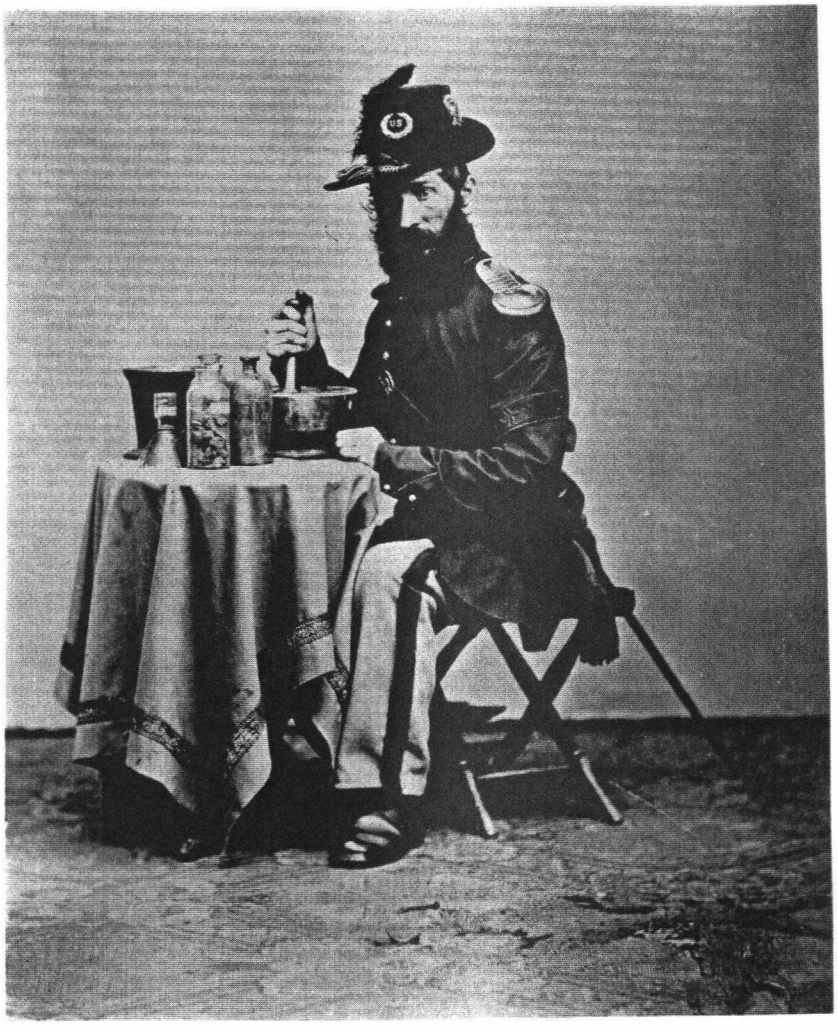


Figure 6.3 Hospital Steward in formal Uniform
(Smithsonian Institution photograph)

would be considerable (Gillett 1981: 56). After the beginning of the war, on the recommendation of the Medical Officer of the post, an enlisted man of sound qualifications could be promoted to acting hospital steward, a rank he would hold until his term of enlistment expired (Woodward 1863: 20).

Contract Surgeons

This final class of medical personnel was very common during the Civil War, especially in the west. With the Army suffering a severe shortage of surgeons, many qualified doctors went to regiments in the east. The carnage taking place on the eastern battlefields obviously took precedence over the relatively simple medical problems at isolated and peaceful frontier posts. Unfortunately for western troops, it was not always possible for the government to provide them with a post surgeon. The Governments remedy was to hire, on a temporary or even a semi-permanent basis, a "contract surgeon", illustrated in figure 6.4. This person would be a doctor from the local area who would serve in one of three ways. If the post was going to be without a surgeon for a long time, a contract physician would be hired to serve permanently as the Post Medical Officer and often could work there, without a commission, for several years in that capacity. If the post was eventually going to be assigned a commissioned surgeon, a contract surgeon could be hired on a monthly basis to serve in the short term until the new surgeon arrived. Finally, a contract surgeon could be hired temporarily on a visit to visit basis, and would come to the fort at varying intervals to see the more serious cases and check up on the general health of the post.

The transient nature of the contract surgeons makes them difficult to characterize. In Oregon at this time, there were few physicians to begin with, and the contract surgeons hired for Fort Hoskins, when they could be found, came from Corvallis, Salem, and possibly from Albany. The quality and abilities of these men are difficult to determine. It seems that the western frontier, where surgeons were few and far between, tended to attract young doctors just starting out who felt that they had a better chance to establish a practice in an area where there was little competition. When Joel Palmer was serving as the Superintendant for Indian Affairs for the Oregon reservations, and was one of the best

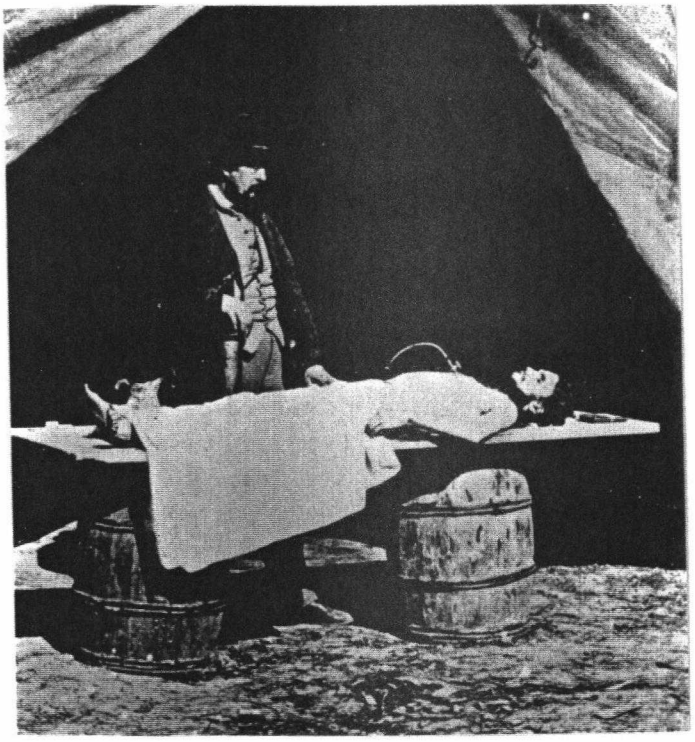


Figure 6.4 Example of a Contract Surgeon, hired by the U.S. Army (Library of Congress photograph)

known and most respected men in the state, he was often sought out by these young men. In his personal papers are repeated requests for interviews or introductions from young Doctors who had just come to the region and desired his endorsement (University of Oregon Archives: Palmer Papers, 1858).

At Fort Hoskins, as in the Army as a whole, contract surgeons received less than enthusiastic reviews. Late in the war, it was noted that the government was spending

more money constantly hiring contract surgeons, especially for the western posts, than it would have if these men had been given permanent commissions (Breeden 1977: 394-395). In addition, the quality of surgeons available locally in the west was often less than ideal, provided such men could be found at all. At Fort Hoskins, several contract surgeons were hired for varying lengths of time and the officers at the post seem to have been less than pleased with the results. One Corvallis doctor evidently felt that the scarcity of physicians in the area meant that his skills were in great demand and hence were obviously that much more valuable. He contested the standard rate of pay that the army was allowed to give to contract surgeons, and demanded instead to be paid what he thought was the going rate for his services. His repeated attempts to obtain this extra pay were rebuffed. His skills were evidently not as highly prized at Fort Hoskins as he thought, since he served there for only one month despite the fact that his departure left the post without a surgeon (FHLB, May 24, 1864). In fact, Fort Hoskins had poor luck in general with contract surgeons. Usually, they were too tough to find, were not willing to work for the standard army wage, or those men who were locally available were not of the best quality.

CHAPTER 7: MEDICAL PERSONNEL AT FORT HOSKINS

Fort Hoskins was an active military post from 1856 to 1865. Over this period of time, records indicate that eight different surgeons, and one hospital steward, served as the Post Medical Officer. It is also possible that two other men not included in this list acted as temporary physicians at the post for short periods of time. The documentary record of the post infirmary at Fort Hoskins is sadly incomplete. However, several searches of the records of the Army of the Pacific, and of the Medical Department of the Army in the National Archives in Washington D.C. have yielded important information about the medical personnel who served at Fort Hoskins. Post correspondence and transfer records indicate, in most cases, when the individual doctors served at the post. The service records of several of these surgeons have been located, providing insight on their experiences in the military, both before and after serving at Hoskins. Some of the regular army surgeons served in battlefield commands in the east during the Civil War, and one was court-marshaled during the conflict for dereliction of duty. In most areas of the frontier, it was common for some of the volunteer surgeons to set up a private practice in their new state after the war, and such was the case in Oregon.

Several times during the active life of the fort, a hospital steward named Edward Colmache served as "Acting Post Medical Officer", and it is also probable that there were enlisted men with no formal training who served as "Acting" hospital steward. Unfortunately none of their names has come to light in existing documents. Table 7.1 lists all personnel known to have served as the Post Medical Officer at Fort Hoskins.

One of the main problems associated with researching this, or any frontier military post, is determining the existence and availability of documentary sources . The National Archives is the official repository of all of the records pertaining to these frontier military forts, but the reports and files themselves are often difficult to find. Several types of

Table 7.1 Medical Personnel at Fort Hoskins

Physician or Steward	Known Period of Service
Richard Potts	May 1, 1856 to July 7, 1857
W.I. Le'Engle	July 1857 to June 8, 1858
Lewis Taylor	June 15, 1858 to May 2, 1860
John Randolph	May 28, 1860 to November 29, 1860
John F. Head	November 29, 1860 to November 1861
Horace Carpenter	January, 1862 to March, 1863
Edward Colmache	1862, 1863, dates unspecified
E.Y. Chase	October 1863 to 1864, date unknown
John L. Coombs	January 1865, termination unknown

documents pertaining to Fort Hoskins could never be located. Moreover, during the course of this investigation National Archives personnel stated that some of the relevant files containing information about the Fort Hoskins Infirmary, and specifically requisitions for medicine and supplies, may have been destroyed by a fire. As a result, the documentary record is far from complete.

The possibility exists that two other men not included in this study served at Fort Hoskins for short periods of time. Both would have been contract surgeons who may have served as the Post Medical Officer on a temporary basis. The names of Dr. J.R. Bailey of Corvallis, and Dr. E.F. Lee both appear on single documents linked with the records of the Infirmary at Fort Hoskins. However, no other information has been found to verify that either served as the official post surgeon, nor has it been possible to ascertain exactly when these men might have worked at the post. Aside from the possibility that they may have served at Fort Hoskins in some temporary capacity for an undetermined period of time, no other biographical information is known about them, and they are not included in this study.

The Regular Army Period

Richard Potts- Assistant Surgeon, May 1, 1856 to July 7, 1857, Potts was the first Post Medical Officer at Fort Hoskins. Very little is known about his general service, and nothing of his medical training, education, or background. No service records have come to light, but two pieces of miscellaneous correspondence from the Department of the Pacific headquarters in San Francisco, and Medical Department Property Returns provide glimpses of his general service and career.

Assistant Surgeon Potts served at Fort Humbolt, California from December 31, 1853 to June 30, 1854 (FHMR: Medical Department Property Returns, 1854). It is probable that this was his first assignment upon entering the Medical Corps. From December 31, 1854 to June 30, 1855 he served at Fort Stielacoom, Washington Territory, but for the next year, no record has been found of his location or service. Richard Potts became the first Post Medical Officer at Fort Hoskins, reporting for duty on May 1, 1856. He served there until relieved from duty July 7, 1857.

Apparently, when he left Fort Hoskins he was transferred to the Presidio in San Fransisco, because he was present in September of 1858 when Surgeon L. Simpson arrived at the post to take command as the new Medical Director of the Department of the Pacific (FHMR: Letter, January 2, 1858). Simpson also notified the Medical Department in Washington that in late 1858, Richard Potts temporarily returned to Oregon, and property returns indicate that he visited Fort Vancouver at this time (FHMR: Property Returns,1857-58). A letter from the Presidio to the Surgeon General states, "Assist. Surgeon Potts returned from Oregon a week since, after an absence of nearly three weeks, having accompanied a detachment of troops thither" (FHMR: Letter, January 2, 1858). Because this same letter states that Potts' 4 year enlistment was almost up, we can infer that the December 31, 1853 date noted on the earliest property returns indicates that the

Fort Humbolt assignment was his first upon entering the service. On January 15, 1858, he was relieved from duty in the Army of the Pacific (FHMR: Letter, January 15, 1858).

After January of 1858, his subsequent service is unknown, and it was assumed that he left the Medical Corps until an Abstract of Surgical Instruments Return for the year 1860 was found indicating that he was still serving, and was in possession of two standard types of medical instrument kits. This entry indicates that he re-enlisted, but since his name does not appear on the same set of returns in any subsequent year, it is possible that he left the service at the start of the Civil War, possibly to join the cause of the South.

W. I. Le' Engle- Assistant Surgeon, July 1857 to June 8, 1858, Le' Engle became the Post Medical Officer at Fort Hoskins on an undetermined date in July of 1857. Little is known of Le' Engle's service or medical training. It is known that he was stationed at Fort Miller, California in December of 1856, and served at Fort Vancouver in early 1857 After relieving assistant surgeon Potts at Fort Hoskins in July of 1857, he spent the next 11 months at the post, and his name appears as the Post Surgeon on all of the standard Medical Department forms . It appears that his next assignment was on the froontier in Texas, as the last record of his service indicates that he became the Post Medical Officer of Fort Belknap, Texas, in December of 1859 (FHMR: Post Returns, 1856-1859). After this date, no further records of his service have been found, and his name does not appear on Medical Department property returns or promotion lists for the period.

Lewis Taylor- Assistant Surgeon, June 15, 1858 to May 2, 1860, Taylor had a long and interesting career in the military. A partial service record detailing his activities provides an instructive example of the life of an army surgeon on the frontier, detailed in Table 7.2. The record begins in July of 1857, when he reported in from the field, accompanying a detachment of troops from Company F, 9th Infantry who were serving as an escort for the North West Boundary Commission (FHMR: Letter, October 2, 1857).

Table 7.2 Service Record, Assistant Surgeon Lewis Taylor
(FHMR: Service Records, 1857-1862)

7/ 1857-	Escort Duty, North West Boundary Commission
10/1857-	Camp Semiahmoo, W.T.
7/ 1858-	Fort Hoskins, Oregon
9/ 1860-	Escort Duty, Washington Territory
4/ 1861-	Fort Walla Walla, W.T.
5/ 1861-	In the field, Fort Benton Military Road Expedition
7/ 1861-	En-route to Fort Colville, W.T.
8/ 1861-	Fort Colville, W.T.
11/1861-	En-route to Fort Vancouver, W.T.
12/1861-	Fort Vancouver, W.T.
1/ 1862-	En-route to Camp Pickett (San Juan Islands)
2/ 1862-	Camp Pickett, W.T.
9/ 1862-	Fort Steilacoom, W.T.
10/1862-	Camp Pickett, W.T.
12/ 1862-	Relieved at Camp Pickett, and ordered to report to Surgeon General, Washington D,C,

Stationed at Camp Semiahmoo, Washington Territory through at least December of 1857, the next record of his service is his relief of W.I. Le' Engle at Fort Hoskins on July 15, 1858. He served as the Post Medical Officer until he was relieved on May 2, 1860.

A surgeon on the frontier would often be detailed to different bodies of troops for short periods of time, especially when they were on maneuvers in the field where the hazardous service necessitated the presence of a physician. Assistant surgeon Taylor appears to have liked such assignments, and certainly saw a great deal of the western territory during his travels. No records have been found to document his service in the east from 1863 onward, but Taylor served through the war and was promoted to the rank of Surgeon in 1864 (FHMR: Post Returns, December 1864). He was still a surgeon in the field at the start of 1867, and his subsequent career is unknown.

John Randolph- Assistant Surgeon at Fort Hoskins from May 28, 1860 to Nov. 29, 1860, Randolph was born in 1827. He was 28 years old when he received his first assignment as an Assistant Surgeon in the Medical Department. He went on to an interesting career, illustrated in table 7.3, finally retiring in 1877. Randolph was the beneficiary of a practice which was unheard of in the pre-war Medical Department: he was promoted ahead of his time in service ranking. The Civil War forced the Medical Department to promote men of real ability, and Randolph was evidently such a man. He was promoted to the rank of Major in 1862, and was named the Medical Director of the Department of the Missouri in 1864, (FHMR: Service Records, 1855-1877) attainments which would never have come so soon in his career during peacetime.

His six month stint at Fort Hoskins was a temporary assignment from Fort Walla Walla, W.T. His skill as a surgeon is indicated by a newpaper article that appeared after he had left Oregon for the battlefields of the east. During his time at Fort Hoskins, Randolph performed an amputation of the thigh, a procedure which was very difficult. Fortunately, the patient survived, and Randolph's triumph was only the second such operation ever performed in the state of Oregon (Weekly Oregonian, 2/11/1865). John Randolph died in 1880, three years after retiring from service in the Army.

John F. Head- Surgeon at Fort Hoskins, November 23, 1860 to November, 1861, Head was the only Medical Officer to have served at Fort Hoskins who had enough seniority to rank as a full surgeon, with a corresponding rank in service of Major. Little evidence of the career of John Head has been found. We know he was born in 1821, received his medical training at Massachusetts General Hospital, and in 1844, entered military service (FHMR: Service Records, June 2, 1844).

A letter dated May 3, 1860 notes his arrival at Jefferson Barracks, Missouri, and states that he was departing for Oregon with a detachment of recruits (FHMR: Service Records, May 3, 1860). He arrived at Fort Beuton, Nebraska Territory in August of 1860, and by

Table 7.3 Service Record, Surgeon John Randolph
(FHMR: Service Records, 1855-1877)

12/1855-	Sailed from Fort Monroe, Va. with 9th Infantry
3/ 1856-	Fort Dalles, Or., and in the field
3/ 1857-	Fort Walla Walla, W.T.
5/ 1859-	Fort Dalles, Or.
6/ 1859-	In the field, Expedition to Salt Lake
10/1859-	Fort Walla Walla, W.T.
5/ 1860-	Fort Hoskins, Or.
12/1860-	Fort Walla Walla, W.T.
3/ 1861-	Fort Yamhill, Or.
11/1861-	Presidio of San Francisco, Ca.
2/ 1863-	General Hospital, Jefferson Barracks, Mo.
12/1864-	Medical Director, Department of the Missouri
8/ 1865-	Director, Marine Hospital, St. Louis, Mo.
8/ 1866-	Awaiting orders (gap in records)
8/ 1868-	Attending Surgeon, New Orleans, La.
10/1869-	Leave of Absence
5/ 1871-	Acting Assistant Medical Surveyor
11/1872-	Medical Director, Department of the Gulf
11/1872-	Post Surgeon, Omaha Barracks
10/1873-	Post Surgeon, Fort D.A. Russell, Wyo.
2/ 1874-	Medical Officer on Sioux Expeditions
7/ 1874-	Post Surgeon, Camp Robinson, Wyo.
11/1874-	Absent on Field Duty at Fort D.A. Russell, Wyo.
5/ 1875-	Post Surgeon, Fort D.A. Russell,
10/1876-	Leave of Absence
3/ 1877-	Member of retiring board, Washington, D.C.

October of that year reported for duty at Fort Vancouver, W.T. Head was evidently assigned to Fort Hoskins, and present at the post on November 23, 1860 (FHMR: Service records, November 27, 1860).

It was unusual for a surgeon of Head's seniority to be assigned to such a small, out of the way outpost as Fort Hoskins. The Medical Department promoted on the basis of seniority alone, and prior to the Civil War had only 30 full surgeons in its ranks

(Adams1952: 4). There are several possible reasons for this interesting situation. First, in 1860, Head was newly promoted, and was the least senior Surgeon in the Medical Department (FHMR: Service Records, 1860). Even in light of this fact, his assignment to Fort Hoskins is still unusual, and may therefore reflect a preference for work in the field or a desire to serve on a western outpost in order to see the frontier. It is also possible, however, that the assignment reflects upon his performance in previous duties and that he was assigned to such a small post as a form of punishment or discipline.

The possibility that this assignment was a form of punishment is made more plausible by several documents that relate to Head's career after he left Fort Hoskins, and specifically the fact that his actions later in the war caused him to be court marshaled for dereliction of duty. When the Civil War started, many regiments stationed in the west were hurredly recalled to the east, and Head notes that he was en-route to New York with troops in November of 1861. He became the Medical Director for the Department of Kentucky in July of 1862, and in early 1863 was brought up on charges.

Apparently, Head left his post as the Medical Director of the Department of Kentucky, without permission and against specific standing orders to the contrary. He traveled to Washington D.C. where he stayed for almost two weeks, apparently conducting business which was totally unrelated to his duties. He was charged with leaving his station without permission and against the specific orders of the Medical Department, and remaining absent until ordered to his station under arrest (FHMR, Court Marshal proceedings, Kentucky, March 10, 1863).

Surgeon Head claimed that the specification did not sustain the charge, and that he was never arrested but instead returned to the post by his own volition. He was found not guilty of having to be brought back to his post under arrest, but was found guilty on all other charges, the report stating, "Surgeon J.F. Head, did not only violate the usages of the Army, but also paragraph 438, Revised Army Regulations" (FHMR: Court Marshall Proceedings, 1863). Possibly due to the shortage of qualified physicians, he was simply

reprimanded and sent back to his post. By 1865 he had risen to 17th on the seniority list of Surgeons in the Medical Department (FHMR: Property Returns, 1865). Head apparently stayed in the military after 1865, but no records have been located regarding his subsequent military service. He was successful in remaining safely entrenched in an undistinguished military career. Nothing of his post-Civil War career is known with the exception of the mention of his retirement in 1885, at which time he would have been 64 years old (FHMR: Service Records, 1885).

The Volunteer Period

Horace Carpenter- Assistant Surgeon, January, 1862 to March, 1863, and temporarily re-assigned to Fort Hoskins, October 1864 to November 1864, Carpenter was the first Volunteer Surgeon to serve at Fort Hoskins. Arriving in early January of 1862, his service record is listed in Table 7.4. He was born in 1826, and received his medical training at Keokuk Medical School, graduating in 1856. After

Table 7.4 Service Record, Assistant Surgeon Horace Carpenter
(FHMR: Service Records, 1861-1865)

12/1861-	Ordered to Fort Hoskins
4/ 1863-	Ordered to Fort Lapwai
11/1863-	Ordered to Fort Yamhill
4/ 1864-	Ordered to Cape Dissappointment
5/ 1864-	Serving at Fort Yamhill
10/1864-	Ordered to Fort Hoskins
11/1864-	Ordered to Fort Vancouver
12/1864-	Ordered to Camp Russell, Salem
4/ 1865-	Serving at Eugene City, Oregon
5/ 1865-	Serving at Fort Stevens
7/ 1865-	Serving at Fort Stevens (last entry)

private practices in Brooklyn, New York and Scott County, Iowa, he entered the Military to serve with volunteer troops in Oregon in 1861 (Larsell 1947: 194-195). Arriving in late 1861, he was ordered to report to Fort Hoskins on December 26, 1861. After serving for more than a year, he was ordered to report to Fort Lapwai in March of 1863. Table 7.4 documents Dr. Carpenter's military service in the Northwest during the Civil War.

Dr. Horace Carpenter served with the volunteer companies through the end of the Civil War. He then mustered out of military service in 1865 and settled in Oregon, establishing a private practice in Salem. Carpenter ultimately became one of the most prominent physicians in the state. He was named the first Dean of the Willamette Medical Department, and was a professor of civil and military surgery for nine years at the school. Dr. Carpenter helped establish the first medical journal published in Oregon, and was the first superintendant of the State Insane Asylum in Salem (Larsell1947: 195).

> Carpenter was known and respected thoughout the state for his surgical ability and as a teacher and physician. By competent colleagues he was considered the best surgeon in the state. (Larsell 1947: 195)

Horace Carpenter finished his medical career in private practice in Portland. He died in 1888, at the age of 62.

Edward Colmache- Hospital Steward, Colmach served at Post Medical Officer in 1862 and 1863, dates unspecified. Edward Colmache was initially a hospital steward with the regular army when he came to Fort Hoskins in 1858. He served under various Medical Officers at the post until the regular army troops were transferred to the east coast in late 1861. At this point, for unknown reasons, Colmache did not accompany the troops. He stayed at Fort Hoskins and served there as hospital steward for the various volunteer companies manning the post during the Civil War. Why Colmache was allowed to resign from the regulars and serve with the volunteers is a mystery, and it is certainly unusual. His motivation for staying might have been love, since sources

indicate that he lived with an Indian woman as a common-law wife for at least seven years while serving at the post (Barth 1959: 165).

For significant periods of time in 1862 and 1863, Fort Hoskins was occupied by volunteer troops, but was not yet assigned a surgeon to care for them. During these times, hospital steward Colmache was evidently acting as the post Medical Officer in everything but official title. Colmache's name appears on several monthly reports and letters which needed to be signed by the post Medical Officer, and he was certainly caring for the soldiers and entering cases in the sick book at this time, as well. Colmache's simplistic entries and misspellings of common diseases in the Fort Hoskins Register of Sick and Wounded illustrate all too well his lack of fitness for such a responsibility. The fact that Colmache was simply an enlisted man who held no formal medical degree evidently did not hurt his reputation as a healer among the soldiers. However, his physical condition probably made his services considerably less appealing to the soldiers under his care. Hospital steward Colmache suffered from an advanced, and apparently quite visible case of syphilis. In July of 1864, he was described by a soldier, Private Royal Bensell:

> Edward Colmache receives commission as Surgeon in the 1st Oregon State Cav. He is an old soldier, an excellent Doctor, but a most indolent man. Has kept a squaw for the last seven years. His system is so thoroughly impregnated with syphilitic disease as to show itself in its most loathsome form in his face, on his neck, &c.,&c., yet this man will soon dictate etiquette, manners,&c., to his moral superiors.
> -Pvt. Royal Bensell, July 8, 1864 (Barth 1959: 165)

Colmache's health was very poor, and the Fort Hoskins Letterbook contains an urgent inquiry to the commander of the post from his mother as to the state of his health and his general well being. He surprizingly managed to live with this debilitating disease for some time, and was known to be residing in Silver City, Idaho in 1876. The Idaho address was given as part of the reply to an interesting inquiry about Colmache, mailed to

the Medical Department by a soldier who had served in the California volunteers at Fort Hoskins.

In 1883, a Mr. William Griffin wrote to the Medical Department requesting the last known address of the "Hospital Steward on duty at Fort Hoskins Oregon in May of 1861 (FHMR: Service Records, 1883). The Medical Department wrote back and said that Colmache was last known to be living in Idaho. The Fort Hoskins Sick Book reveals that Private William Griffin was treated in May of 1861 for "Morbi Varii", or a general debility of unknown origins. Whatever his disease might have been, he was admitted on May 25, and remained in the Hospital until July 1 (FHSB), a considerable stay. It is unknown why Griffin still wished to contact Edward Colmache 22 years after they met, and no later correspondence has been located in Medical Department records to explain this letter.

Elmore Y. Chase- Assistant Surgeon Chase served October, 1863 to late 1864, but exact dates are unknown. He was the volunteer surgeon who was assigned to Fort Hoskins after the departure of Horace Carpenter. Born in 1831 in Ohio, he graduated from Miami Medical College, Cincinnati, Ohio in 1854. He joined the volunteers in 1861, and served until 1866 (Larsell 1947: 198). Medical Department Property Returns indicate service at Fort Vancouver, Fort Dalles, Fort Steilacoom, and Fort Dakota, in addition to Fort Hoskins, during his military career (FHMR: Property Returns, 1861-1866). No official service records have been located to indicate the dates he served at these posts. After the war, he opened a private practice in Salem, but soon returned to government service to become an Indian Agent. He retired in 1876 at the rank of Lieutenant Colonel, and moved back to Salem, where he lived until his death in 1918. (Larsell 1947: 198)

He was an excellent surveyor, and his 1864 plat map of Fort Hoskins survives today as the best existing map of the fort, confirmed by archaeological testing in 1976 and 1977

as exceptionally accurate (Brauner: Personal Communication, 1995). Perhaps Horace Carpenter, an evidently fine surgeon with an excellent reputation among the soldiers, was a hard act to follow. The little information we know about Dr. E.Y. Chase indicates that the soldiers held him in low esteem, certainly for his abilities as a physician, and possibly because he appears to have frowned on liquor as a medicinal aid. The following exerpt from the diary of a soldier who served with the volunteers at Fort Yamhill and occasionally visited Fort Hoskins, is the only primary source known to describe Chase.

> Pvt. J.H. Hannum, actg Hosp't Steward for nearly two years, was yesterday placed in Conft by order of Surg. E.Y. Chase. It seems that Hannum who fills Colmaches place refused to do two duties and Drill as required by Capt. Scott. He is right in justice but will suffer by military law. This man Chase holds a Majors commission, and the Compy have so little confidence in his skill that they employ Dr. Lee of Corvallis, paying for the same. Chase gets no practice "Outside", a very bad sign. Hannum has repeatedly taken Chases cases and cured.
> - Pvt. Royal Bensell, May 25, 1864 (Barth 1959: 156-157)

This mention of Chase is very significant in that it indicates soldiers who were suffering from various illnesses at the post were not seeing him for treatment. The entries in the Sick Book from Chase's time at Fort Hoskins therefore do not indicate all of the cases of illness being suffered at the post. This mention in Bensell's diary is also informative in that it indicates another difference between military regulations, and the realities of frontier life. Although specifically prohibited by regulations, the casual nature of Bensell's statement about Chase "getting no practice outside" indicates that was evidently usual and acceptable for military surgeons of this period to treat civilian cases outside of their military practice in order to supplement their income.

John L. Coombs- Acting Assistant Surgeon Coombs began service in January 1865, and was the last surgeon to serve at Fort Hoskins. A private "Contract Surgeon" from Corvallis, almost nothing is known about Coombs, except that he was in private practice in Corvallis as early as 1854 (Larsell 1947: 239), and that he served as the semi-

permanent Medical Officer at Fort Hoskins from late 1864 through 1865 and the abandonment of the post. The only service records which exist are copies of his contract with the military to serve as the post surgeon at Fort Hoskins on January 6, 1865 (FHMR: Service Records, 1865).

CHAPTER 8: HOSPITAL ROUTINE AND RESPONSIBILITIES

Daily Schedule

At Fort Hoskins, the life of a soldier was a highly organized affair. The post records indicate that a strict military timetable for the daily routine was established and followed from the outset at the post. This routine remained constant through the volunteer occupation as well, with only minor shifts in the schedule to accommodate changes in season or special circumstances. In general, the daily schedule at the Hospital was organized along the same orderly lines as life at the post in general. Table 8.1 shows the times and activities of the regular troops under the command of Captain Christopher C. Augur at Fort Hoskins in early 1857, as well as the subsequent volunteer unit officers.

At the hospital, this schedule translated into a set routine of duties which defined daily life for the medical personnel and patients. For the regular army soldiers, a typical day at Fort Hoskins began with reville at 5:00 am, but it was often later during the summer months (FHPO, June 18, 1858). At reville, the hospital stewards would rise, make their beds, wash and dress for the day. Those patients who could do so would also rise, make their beds, and wash themselves. The hospital stewards would then generally clean and straighten up, which included sweeping the floors and taking care of any bed pans or other duties involving the patients cleanliness. They were also, at this time, supposed to clean out the spittoons which were thoughtfully provided to keep patients and hospital personnel from spitting on the floors (Woodward 1863: 79).

Next came breakfast call, at 7:00 a.m. for the regular army. The patients who were able to walk would eat with the attendants. They were not to "straggle irregularly through the house to their breakfast" (Woodward 1863: 80). Instead, the soldiers were to

Table 8.1 Daily Schedules by Commander at Fort Hoskins (Brauner and Stricker 1994)

Augur		Schmidt		Seidenstriker		Garden		Palmer	
Reveille	5am	Reveille	daybreak	Reveille	5am	Reveille	5:30am	Reveille	daybreak
Breakfast	7am	Breakfast	7:30am	Breakfast	7:30am	Breakfast	6:15am	Breakfast	9am
Fatigue	7:30am	Surgeons call	8am	Fatigue	7:30am	Fatigue call	7am	Drill call	9:30am
Guard mounting	8am	Guard Mounting	9am	Surgeon	7:45am	Guardmount	8am	Guardmount	9:45am
Recall	12pm	Fatigue call	9am	Guardmount	8am	Surgeon call	8am	Surgeon call	10:15am
Dinner	1pm	Orderly call	12pm	Orderly	12pm	Recall	12pm	Drill call	10:30am
Fatigue	2pm	Dinner call	12:30pm	Recall	12:05pm	Orderly call	12-5pm	Recall	12pm
Recall	6pm	Fatigue call	1:30pm	Dinner call	12:30pm	Dinner	12:30pm	Dinner	3pm
Retreat	sunset	Retreat	5pm	Fatigue	1:30pm	Fatigue	1:30pm	Retreat	sunset
Tattoo	9pm	Tattoo	8:30am	Recall	6:30pm	Recall	4:45pm	Tattoo	8:45pm
Taps	9:15pm	Taps	9pm	Retreat	sundown	supper	5pm	Taps	9pm
				Tattoo	9pm	Tattoo	8:45pm		
				Taps	9:20pm	Taps	9:15pm		

be drawn up in good order by rank and marched off promptly to the table, where they would eat with the hospital stewards. A steward was designated to take breakfast to any patients who were unable to walk. After breakfast, they were to be marched back in the same order, and no patient was to be allowed to leave the ward after breakfast, except for "necessary purposes" (Woodward 1863: 80). This routine appears to be fairly restrictive, and it is hard not to imagine that in actual practice, soldiers would sometimes be allowed outside to enjoy the health benefits of the fresh, clean air. However, no information pertaining to these practices has come to light regarding Fort Hoskins specifically, and we must rely on the "official" version of regulations, perhaps interpreted with the general easing of discipline on the frontier in mind.

The Surgeons Call came at 8:30 a.m. The Post Medical Officer would use this time to examine each patient in the ward. Checking their progress, he would instruct the hospital steward in charge of the ward how to treat each case. The medicine each patient was to receive, as well as the proper dosage, would be conveyed to the steward and recorded in the prescription book. The types of foods the patient was supposed to eat would be entered in the diet book as part of the record of his general treatment in the hospital. Unfortunately, no such documents have been found from Fort Hoskins. The doctor would also use this time to schedule any procedures which he, and not the hospital steward, would have to perform. In the ward, medical matters took precedence over military ones, and the surgeon's judgment on how to proceed with each individual case was the sole criterion for proposed treatment. The Medical Department dictated how and when he was supposed to report illnesses, and it told him how to classify disease. However, the medical decisions made by a surgeon in the field would not often be questioned, or even generally directed, by the Medical Department. The surgeon was to determine the present condition of each patient and prescribe treatment accordingly.

Dinner and supper calls were at 1:00 p.m. and 6:00 p.m. respectively. The regimen of proceeding to these meals in ranked order was followed in each case, and the Stewards

were again to provide those too ill to walk to dinner with food and drink. Supper call was sometimes preceded by a 5:00 p.m. Surgeons call, where the Medical Officer would make the rounds yet again, and check on the progress of his patients. At a small infirmary such as Fort Hoskins, the 5:00 p.m. surgeons call was often skipped or ignored entirely. The remainder of the day was to be used to fulfill the general duties of the medical officer and the hospital steward, which at a frontier post were quite considerable. Although the duties of both Medical Officers and hospital stewards were dictated mainly by the needs of the patients, the types of cases, and the treatments required, each had particular delineations of authority and responsibility.

Medical Officers' Responsibilities

The Post Medical Officer of a frontier post was in charge of the overall health of the command. Any aspect of camp life which might affect the soldiers' health was overseen by him, and in theory, his opinion held sway over the commanding officer in such matters. Camp sanitation, especially the fresh water supply, was a constant concern. Unlike many other frontier posts, at Fort Hoskins the spring water piped in from above the fort prevented many diseases caused by water contamination. The post physician would regularly inspect the diet of the troops, especially at posts where scurvy was common. Illnesses of the digestive tract were both common and debilitating, and an extra duty of the surgeon was to inspect food supplies and declare them fit or unfit for consumption. Documentary sources from the post indicate several instances where the physician was called in to inspect the condition of new shipments of beef and pork (National Archives, Beef Contract correspondence).

Another duty of the post surgeon was to keep the troops inoculated from smallpox. An urgent letter from April of 1862 instructs the post physician, Dr. Horace Carpenter, to

"procure the best vaccine matter available, and see that the troops... be vaccinated without delay" (FHLB: April 7, 1862). If any serious outbreak of disease did occur, the post physician had the authority to order any soldier or officer into quarantine.

The physicians at frontier posts would often have duties unrelated to medicine. As officers, they were often required to sit on boards of inquiry or court-martials. The Medical Department still insisted that precise weather readings be taken and recorded by a surgeon every day, although in practice, the hospital steward was usually assigned to do it. In one case at Fort Hoskins, the Post Medical Officer was ordered to proceed to Corvallis and inspect the fitness and health of several horses which were to be sold to the military (National Archives, Medical Correspondence, Fort Hoskins). Evidently, the doctor's medical training was enough to qualify him for the job, although one of the privates who grew up on a farm probably would have been a better choice than a city doctor. In addition, he often had to travel where his services were needed. Temporary duty, either in the field or at a small post which did not have a permanent doctor, often required long trips and absences from the post. For instance, when the health of the men at the Siletz Blockhouse grew poor, it was necessary for the physician to make the journey and tend to their problems, although there are several examples of Hospital Stewards being sent instead of the post physician (FHLB).

The Post Medical Officer was also in charge of keeping the hospital supplied with adequate medicines and equipment. This was evidently a big problem, especially for the volunteer surgeons who were not used to the military bureaucracy, and who often did not know how to requisition the necessary supplies. Obtaining supplies for a relatively unimportant frontier post during wartime was difficult at best, and it was not unusual for requests to go more than one year without being met. Even obtaining the proper forms with which to order supplies was a problem (FHLB: April 7, 1862). In short, most surgeons simply had to adjust to the situation and do their best to maintain the health of the troops with limited supplies and material.

Hospital Stewards' Responsibilities

The duties of the hospital steward were extensive and varied. Even at a relatively small post such as Fort Hoskins, so many things fell under the auspices of the hospital steward that one man couldn't possibly have performed all of the tasks required of him. Over the years the position had collected many various duties that were supposedly "below" the skills of a surgeon. Carrying them out under the letter of the law was nearly impossible and when the war began, the army seemed to become aware of this fact and tacitly recognized a blatant difference between theory and practice in the duties of an enlisted man working in a hospital.

In 1862 the army commissioned Assistant Surgeon Joseph J. Woodward to write a manual that would serve as a guide for hospital stewards to the bewildering array of duties which had devolved on them. *The Hospital Stewards Manual* was, as the authors say, "...written hastily to supply an existing want". It is instructive to note that sections of this quickly prepared book directly contradict the Army Regulations pertaining to Medical Officers, published just one year before in 1861. Several times the manual mentions how to carry out duties and responsibilities which the official Army Regulations state clearly were to be the job of the Post Medical Officer (Woodward 1863: 3). Without the urgency of wartime, such an embarrassing lapse would have been caught, but it illustrates just how much the hospital steward was being asked to do in actual practice. Often, the overwhelmed steward would receive assistance in the form of enlisted men who were drafted from the ranks. In order to avoid having to pay the extra money per month entitled to a soldier carrying the rank of Assistant hospital steward, enlisted men would be "temporarily" assigned to hospital duty in the same way they would be assigned to guard duty.

First and foremost, the hospital steward was responsible for the general supervision of the hospital or infirmary. The general condition of the hospital, its ventilation, lighting, temperature and overall management were his responsibility. The prevailing theory of disease at the time was that it was carried by "miasmas" in the air, and that any malodorous smell was an indication that disease was present and spreading. For this reason, ventilation was considered extremely important. Specific instructions are given in *the Hospital Stewards Manual* for opening windows at different times of the year, placing beds no closer than three feet apart, and making sure a minimum of 1,500 cubic feet of space was per patient was maintained at all times. The manual notes:

> It has been calculated that each patient takes into his lungs, and throws out contaminated and unfit to breath again, from three to four hundred cubic feet per hour. If to this large element of contamination be added the deterioration of the atmosphere of the ward, resulting from the cutaneous exhalations of the sick, and the effluvia from suppurating wounds, offensive discharges, etc, it will be seen at a glance that the air of a hospital-ward must become rapidly unfit for use. (Woodward 1863: 104)

This practice was effective in helping to prevent the spread of airborne vectored respiratory diseases from person to person. With so much fresh air pouring into the ward, temperature was a prime concern. It was recommended that a constant 70 to 72 degrees be maintained, but that to avoid the harmful and "unnatural dryness of the atmosphere produced by the use of stoves", a pot of water was to be placed on the stove at all times to keep the air moist (Woodward 1863: 107). The overall sanitary condition of the hospital was also his responsibility, and it was instructed that he should periodically wash the floors and furniture of the ward, but should only use an antiseptic (often carbolic acid) when a malodorous smell persisted. His efforts were not only overseen by the Post Medical Officer, but also were regularly examined by the Post Commander during his weekly Sunday inspection.

The steward was also in charge of the dispensary. Many items such as liquor or drugs were to be kept under constant lock and key. He was expected to have a working

knowledge of pharmacy and would mix and administer solutions per the Medical Officers instructions. He was also responsible for keeping the supply of medicines organized and well stocked. A hospital steward was supposed to have at least a working knowledge of Latin, and was to learn his Medical Officer's preferred abbreviations for specific substances in the pharmacopia. When surgery was called for, he was to assist the Medical Officer with the procedure and was to perform any subsequent changes of the dressing of the wound during the patients recovery (Woodward 1863: 44). Figure 8.2 shows the interior of a Civil War hospital ward in the east. Although decorated for the fourth of July, the organization and the layout of the interior is similar to Fort Hoskins.

The hospital steward was, in practice, the main record keeper for the hospital. Although much of this work was supposedly a duty of the surgeon, the manual makes clear that in practice, most of the daily and weekly records for the hospital were the steward's responsibility. When patients entered the hospital, the steward took charge and made an inventory of his personal effects. He was also responsible for keeping an inventory of all hospital property such as beds, blankets, lamps, etc., noting and accounting for any damaged or destroyed items, and was to report occasionally on their general condition. He was usually responsible for keeping the meteorological register, although this too was supposedly the duty of the Medical Officer. Finally, the steward was responsible for keeping the muster and pay rolls, completing all paperwork for deceased soldiers in the care of the hospital, and for granting any written passes for ambulatory patients who wished to leave the post.

It is important to note that at an isolated frontier post, there was often a larger discrepancy between the official duties a soldier was supposed to accomplish, and what that person actually did. Exact adherence to regulations was dictated by necessity, and by the preferences of the post surgeon and commanding officer. It is doubtful that at an isolated post, strict adherence to all formal military regulations was observed in all

Figure 8.1 Interior of Civil War Hospital (National Archives)

military matters, not just in the hospital. The exigencies of service on the frontier often meant that a hospital steward's responsibilities extended much further than even standard procedure dictated. Even at a relatively quiet frontier post such as Fort Hoskins, it is easy to see why the hospital steward was generally overworked and often overwhelmed. On the positive side, he was also a respected and exceedingly important figure who was vital to the daily operation of the hospital.

CHAPTER 9: HEALTH AND ILLNESS AT FORT HOSKINS

The pre-Civil War Medical Department had many limitations, but one of its strengths was undoubtedly a consistent attention to detailed record keeping. The first Surgeon General, Joseph Lovell, required from the very inception of the Medical Department in 1819 that surgeons keep detailed and accurate records of the sick and wounded troops under their care, and also required surgeons to send quarterly reports detailing these records to the Medical Department (Breeden 1977: 359). In an era when qualified physicians were few and far between, statistics on health and illness for America's early frontier settlers are almost non-existent. The carefully compiled records of the Medical Department, especially those from isolated frontier posts, are therefore quite important as they represent one of the best ways to gain insight into the health of the general population in these areas.

The records of the Medical Department are also important in a more focused area of study. Without medical records, any examination of daily life at a particular military post must rely heavily on anecdotal evidence from journals or other first hand accounts. While journals or diaries usually note the unusual circumstance, studying the medical records of the soldiers who served at that post may provide an excellent means of reconstructing the more mundane, everyday existence of those soldiers.

Methodology

Three documentary sources pertaining to the sick and wounded at Fort Hoskins have been located at the National Archives in Washington D.C. These sources are not without their limitations, and many document sets are incomplete or missing entirely, but they

provide rare insight into the health of soldiers on the frontier. The most complete record located was the "Fort Hoskins Register of Sick and Wounded", a comprehensive listing of every soldier treated in the Hoskins infirmary from 1857 through 1866. The book does not end with the final abandonment of Fort Hoskins in 1865, because there was still a small detachment of troops stationed at the Siletz Blockhouse. The Sick Book was evidently carried to the coast, and the few remaining cases entered by a hospital steward until the blockhouse was also abandoned . The name of every person, his unit, rank, disease, and length of stay in the infirmary are all carefully recorded.

A second major source is the "Quarterly reports of sick and wounded", sent from the post surgeon to the Medical Department every three months. A partial record of these reports has been located, and are complete from 1856 through 1861. Finally, the "Reports of sick and wounded" from the headquarters of the Department of Oregon (later called The Department of the Pacific) to the Surgeon General relate the numbers and types of cases of disease for every other post in the Oregon Territory, and provide an interesting comparison between Fort Hoskins and other posts in Oregon and Washington. These documents are unfortunately incomplete, and account only for the period of 1858 through 1860.

Because of the gaps in the medical records of Fort Hoskins, three different means of examining the available data will be used in this paper. First, the information for the Regular Army period at Fort Hoskins, from 1857 through early 1861, will be compared to statistics from the 1849-1859 period for the U.S. Army as a whole. For Fort Hoskins, a complete set of medical records exists only for this regular army period. This set of documents includes the mean troop strength figures for every month, providing the means to calculate the percentage of annual mean strength affected by any given disease per year. Because of the incomplete records for the period of volunteer troop occupation at the post, no similar estimates can be made.

Second, the existing medical records for the volunteer period at Fort Hoskins, 1861 through 1865, will be combined with the data from the regular army period in order to provide an overview of health during the entire life of the post. Although we cannot calculate the annual mean strength of the garrison affected by a particular disease during any given year during the volunteer period at Fort Hoskins, the existence on the "Register of the Sick and Wounded at Fort Hoskins" makes it still possible to examine the frequency of particular disease types within the population of the post. Few external comparisons to the health of the army as a whole are appropriate for this time period, due to limitations in the documentary record and inconsistencies of practice and procedure related to the service of volunteer surgeons.

Finally, all of the available records for both the regular army and volunteer periods are utilized in a discussion of health and illness at the post. The "Register of Sick and Wounded at Fort Hoskins" is complete for the entire life of the post, and information contained in this document has been reorganized along lines suggested by a modern physician in order to simplify the complicated and partially incorrect military classification system. Nearly three/fourths of all entries into the Sick Book fall within six major categories of disease, and these categories are examined with implications for the behavior and life of soldiers at the post in mind.

Regular Army Soldiers

The documentary sources on health at Fort Hoskins provide much important data, but should be examined with several reservations in mind. Medical diagnosis in the Civil War area was not an exact science, and depended entirely upon the physicians competence, education, experience, and the state of the art of medical science at the time. Therefore, the diseases entered into the sick book represent only an individual surgeon's

best attempt to classify and treat a particular set of symptoms. Diagnosis of the same patient by a modern physician might yield a very different opinion.

The regular army surgeons followed a standardized system of classification of diseases, mainly because the Medical Department required the "Quarterly reports on Sick and Wounded" to be listedwithin an organized and pre-set system of disease classifications. Thus, although five different regular army surgeons served as the Post Medical Officer at Fort Hoskins, their diagnoses are all very similar and the frequencies and types of diseases which they entered into the "Sick Book" are therefore basically uniform and consistent. The existence of monthly troop strength reports for this time allows a comparison between Fort Hoskins and similar statistics compiled from 1849 through 1859 for the U.S. Army as a whole. The Army records from this time come from troops which were overwhelmingly stationed at posts near or along the frontier, and represent an excellent basis for comparison to Fort Hoskins.

Volunteer Company Soldiers

The transition between the pre-Civil War regular army surgeons and the Civil War period volunteer and contract surgeons resulted in an imperfect and often confusing set of entries. Unlike the Medical Department's standardized system of classification used by the regular army surgeons, volunteer and contract surgeons tended to classify diseases as they had been trained to do in civilian life. The result is that the Civil War period entries in the "Sick Book" often note diseases never before mentioned, and not included in the Medical Department's classification system. In addition, several major types of disease which would have certainly been present in the ranks of the soldiers are mysteriously absent from the sick book during the tenure of certain physicians. This could possibly

indicate that volunteer and contract surgeons were treating the same diseases as their predecessors, but were identifying those same diseases by different names.

As previously noted, the diary of Private Royal Bensell states that one of the volunteer surgeons, Dr. E.Y. Chase, was held in such low regard by the soldiers at the post that they would travel to Corvallis and pay a private physician out of their own pockets to obtain medical care (Barth 1959: 156). Thus, during that time, the numbers and types of illnesses suffered by the soldiers at the post may not be accurately reflected by the "Sick Book". Volunteer surgeons were also notorious for a lack of attention to paperwork. It is interesting to note that the file containing the "Quarterly Reports of the Sick and Wounded" from Fort Hoskins ends completely in 1861, which coincides with the departure of the regular army from the post.

Compromising the data from the volunteer period of the post even more is the fact that evidence indicates clearly hospital stewards were diagnosing and treating patients when there was no surgeon present at the post. Apparently, the senior steward would simply step into the role of Post Medical Officer, completely against regulations, but out of necessity and with the understanding of the Post Commander. Several sections of the Fort Hoskins Sick Book were apparently filled out when a hospital steward was in charge of the infirmary. The Medical Department required that surgeons fill out a standardized form for the "Quarterly reports of the Sick and Wounded". Table 9.1 lists all of the entries into the Fort Hoskins Sick Book using the U.S. Army classification system. The form consistedof a set of classifications for disease which included fourteen major headings, under which every common disease of that type was listed. Sections of the Fort Hoskins Sick Book filled out by hospital stewards contain entries that are totally inconsistent with the rest of the document. The diagnoses are usually restricted to a small number of common diseases, reflecting the steward's unfamiliarity with the more complicated or subtle matters of medical minutia. One obvious entry into the Sick Book from a hospital steward is the badly misspelled diagnosis of "Goneria", another is the

Table 9.1 Sick and Wounded at Fort Hoskins, 1857-1865
(Fort Hoskins Sick Book, 1857-1865)

Classification of Disease	Specific Disease	Number of Cases of Disease Per Year									
		1857	1858	1859	1860	1861	1862	1863	1864	1865	Total
Fevers	Febris Intermittens Quartana	1	3				1			2	7
	Febr. Int. Tertiary		2	2							4
	Febr. Int. Remittens								3	3	6
	Typhiodes			1	1						2
Eruptive Fevers	Erysipelas				1				1		2
Diseases of the Organs Connected With The Digestive System	Colica		3	10	7						20
	Constipatio	1	2	22	9	2	1	2	1	1	41
	Diarrhea	16	15	17	26	7	4	2			87
	Disenteria	11	2	6			1	1			21
	Dispepsia			1		2	2				5
	Gastritis		1	1	1		1				4
	Hepatitis						3	1			4
	Tonsilitis	3	7	14	5	5	1				35
Diseases of the Respiratory System	Bronchitis					2	1		2	2	7
	Catarrh	35	41	46	32	4	12	6	1		177
	Laryngitis								2	2	4
	Pleuritis					2					2
	Pneumonia	1			2			2	2		7
Diseases of the Circulatory system	Carditis						2				2
	Endocarditis				3						3
	Pericarditis				1						1
Diseases of the Brain and Nervous System	Cephalgia								2	2	4
	Delerium Tremins		2	2		2	1	1			8
	Epilepsia			2	5						7
	Mania					3					3
	Neuralgia			1	1						2
Diseases of the Urinary and Genital Organs, and Venereal Affections	Cystisus								1		1
	Gonorrhea	3	13	32	22	19	18	20	6	5	106
	Nephritis			1							1
	Orchitis	2	3	2	6	6	2	1			22
	Syphilis	6	10	11	22	17	23	8	3	2	102
	Syphilis Bubo.	4	4	3	1	1		1		2	16
	Ulcus Penis				1		1				2

Table 9.1 (continued)

Classification of Disease	Specific Disease	Number of Cases of Disease Per Year									
		1857	1858	1859	1860	1861	1862	1863	1864	1865	Total
Diseases of the Fibrous and Muscular Structure	Lumbago						1				1
	Rheumatismus	10	11	21	11	6	13	7	2	3	84
Abcesses and Ulcers	Abcessus	1	4	2	1	1					9
	Paronychia	1	3	2	9	4		1			20
	Plegmon	9	6	12	13	7	4	3		2	56
	Ulcus	1	5	7	7	4	1				25
Wounds and Injuries	Ambustio	1	1	4	5						11
	Contusio	19	12	20	18	7	12	8		1	96
	Fractura				1	2					3
	Hernia			1	1			1			3
	Luxatio (Subluxatio)	7	15	17	12	9	6				66
	Vulnus Incisum	6	3	14	8	3	3	1	2		40
	Vulnus Laceratum		4	7	6	6	2	2			27
	Vulnus Punctura				1	1		2			4
Diseases of the Eye	Opthalmia	1	3	11	5	2	7		1		30
Diseases of the Ear	Otitus	1	1	4	1						7
All other Diseases	Debilitas		1	1	2		2				6
	Ebrietas		4	10	9	3	14	2			42
	Hemorrhoidus	1	1			1	3				6
	Morbi Cutis	1	2	5	3	2	1		1		15
	Odontalgia	1	3	1	1	2					8
	Toxicum						1				1
	Tumores				1						1
	Morbi Varii	4	9		5	7	6	2			33
Diagnoses in Hoskins Sick Book, but Disease not classified in Military Forms	Ague							5			5
	Balanitus		3	1		1				1	6
	Biliary Calculi							1			1
	Consumption								1		1
	Conjunctivitus					2					2
	Herpes/Scabies	3			1						4
	Measles								1	1	1

diagnosis in simple language of a "Gunshot Wound" instead of the standardized Latin description of the trauma used by educated physicians of the period, such as "Vulnus Laceratum" (*Vulnus* meaning wound, and *laceratum* meaning a laceration of the skin and muscle structure).

Life and Health at Fort Hoskins

The following examination of health and illness at Fort Hoskins will use a simplified version of the military classification system, organized along lines suggested by a modern physician to present the data more clearly. 72% of all cases treated at the Fort Hoskins Infirmary fall within six general categories of disease: trauma, sexually transmitted diseases (STD's), respiratory diseases, diseases of the digestive tract, fevers, and alcohol related illness. These six categories are used to provide a logical framework to examine health and illness at Fort Hoskins.

Table 9.2 compares the six major categories of illness at Fort Hoskins during the period of 1857 to 1865, with statistics from the U.S. Army as a whole, during the period from 1849-1859. Unfortunately, the data available from Medical Department totals lists only the total number of cases. Many of these cases are certainly recurring entries, but without better data for comparison, the exact percentage is unknown. These figures represent the overall health of an army which was mainly serving on the frontier, and thus provide the most logical basis for comparison with Fort Hoskins. Inclusion of statistics from the Civil War period would not be appropriate for the U.S. Army, because the nature of operations conducted during that time were dramatically different from the pre-Civil War frontier period. Inclusion of data from Fort Hoskins for the Civil War period is defended on the basis that the operations and daily routine at the post changed very little, and they still represent a thoroughly typical frontier existence.

Table 9.2 Comparison of Major Categories of Disease at Fort Hoskins, 1857-1865, and the U.S. Army, 1849-1859. (Breeden, 1977: 373-375, 388-390; FHSB)

Category of Disease	U.S. Army		Fort Hoskins	
	Total Cases	Total Percentage	Total Cases	Total Percentage
Trauma	40,288	11.68%	251	18.9%
STD's	14,673	4.25%	224	16.8%
Respiratory	39,021	11.31%	197	14.8%
Digestive	88,028	25.51%	182	13.6%
Fevers	67,850	19.67%	99	7.4%
Alcohol related	6,858	1.9%	50	3.5%

Trauma- Trauma represents the single largest category of entries in the "Sick Book". There are a total of 251 cases, accounting for 18.9% of the total enteries into the Fort Hoskins Sick Book. These entries include Ambustio (burns), Contusio (contusions), Fractura (fractures), Hernia, Luxatio (joint trauma, or "Subluxatio" meaning a sprain), Vulnus Incisum (Vulnus meaning wound, and incisum meaning incision), Vulnus Laceratum (laceration), and Vulnus Punctura (puncture wound). A large number of trauma entries is not unusual at a frontier post where the troops performed a great deal of manual labor. Ninety percent of all trauma entries fall within four categories. The 96 cases of Contusio account for nearly 40% of the total. Joint trauma was also quite

prevalent, with the 66 cases of Luxatio representing 25% of the total. Forty cases of Vulnus Incisum and 27 cases of Vulnus Laceratum account for another 25% of the total. The overall percentage of 16.8% for trauma injuries at Fort Hoskins compares unfavorably with the statistics for the Army as a whole, at 11.68% of the total cases.

Although specific alcohol related diseases are given another classification in this study, it is important to note that many of these cases of trauma are probably alcohol related injuries. It is interesting to note that the incidence of trauma at Fort Hoskins is 30% higher than the Army average, and that Alcohol related cases are 41% higher. This may suggest a possible explanation of the higher rate of trauma at Hoskins.

Dr. Rodney Glisan was the post surgeon at Fort Yamhill for four years. Fort Yamhill and Fort Hoskins had similar geographical and environmental locations, played the same role on the frontier, conducted the same daily activities, and even shared and exchanged personnel on a regular basis. It is therefore reasonable to assume that the health problems that Dr. Glisan saw in his duties were very similar to the health problems which were present at Fort Hoskins. In his journal, after two fights between soldiers in the regular army resulted in a beating and a stabbing death, Dr. Glisan noted that liquor was the " ...great exciter of nine-tenths of all the crimes committed" (Glisan 1874: 113). This sentiment was shared by many medical officers on the frontier, and the presence of a person selling liquor near the post was often noted by the post surgeon to cause a corresponding increase in his case load (Breeden 1977: 386-387). It is reasonable to assume that a significant percentage of the trauma entries into the Fort Hoskins Sick Book were the result of drunkenness on duty or alcohol induced fights.

This information on trauma from Fort Hoskins indicates a population of men who were regularly engaged in heavy physical labor. Although soldiers at Fort Hoskins never saw military action in battle, the life they led at the post was still physically challenging and dangerous. The medical data on trauma suffered by the troops at Fort Hoskins is instructive in that it can numerically illustrate a point which is usually only inferred

through anecdotal evidence; it was evidently fairly tough work to keep an active military post functioning even in peace time.

Sexually Transmitted Diseases- Sexually Transmitted Diseases (STD's) represent the second largest category of illness treated at the post. A total of 224 cases were reported over the life of the post, representing 16.8% of the total enteries. Included in this category are 118 cases of Syphilis and 106 cases of Gonorrhea, although many of these were recurrent cases due to the fact that antibiotics were not yet known and there was very little the surgeon could do to treat these diseases.

Dr. Louisa Silva of Salem is currently undertaking a study of the prevalence and spread of AIDS within the population of migrant farm workers in Oregon. She notes that the rise of STD cases between the years 1857 and 1860 at Fort Hoskins, when the population at the Fort remained relatively stable, reflects an expected increase in STD's within a population of young men who were probably sharing a small number of sexual partners (Silva: personal communication 1996). This observation is borne out by the first hand accounts of life at the post, which refer to the common practice of men leaving the fort and paying to have sexual relations with Indian women living on the reservation. The men at the post picked up the chinook jargon for such a practice, calling it "Tenas Moosum", tenas meaning little, and moosum meaning sleep (Bensell 1956: 26).

It is also important to note that it was a common mistake during the nineteenth century to misdiagnose syphilis, usually as neuralgia or rheumatism (Clary 1972: 62). The Fort Hoskins Sick Book records only 2 cases of neuralgia, but the 84 cases of rheumatism reported undoubtedly include many cases of syphilis, meaning that STD's probably account for well over the 16.8% of the total cases diagnosed as such in the "Sick Book". If 28 or more of the 84 cases of Rheumatism were actually Syphilis, it would place STD's as the single largest category of illness at the post, possibly by a wide margin.

The statistics from STD's at Fort Hoskins represent in many ways the most interesting medical data from the post. In every other category of disease, Fort Hoskins was either approximately as healthy, or in many cases much healthier, than the U.S. Army as a whole. This information squares well with the regional statistics for the Army during this time, which indicate that the Oregon and Washington region was comparatively quite healthy. Of the sixteen geographical divisions of command in the army, the Pacific Northwest region ranked third in the nation in overall health of its soldiers (Breeden1977: 366-367). At Fort Hoskins, the only classification of disease which was considerably higher than the average of the army as a whole was STD's, representing 16.8% of the total cases as opposed to only 4.5% for the entire army. This statistic powerfully illustrates how lifestyle and local situation could affect the health of a military post. It also provides an excellent example of the medical data from Fort Hoskins confirming ideas which the anecdotal evidence from the post suggested regarding the sexual practices of the soldiers stationed there.

Respiratory Diseases- The third largest group of diseases recorded in the Sick Book, the 197 cases in the category of respiratory illness account for 14.8% of the total enteries in the FHSB. This category is dominated by 177 cases of Catarrh, the common cold, which alone accounts for 90% of the total entries. Also included are Bronchitis (7 cases), Laryngitis (4 cases), Pleuritis (2 cases), and Pneumonia (7 cases). As is the case today, medical science of the nineteenth century was at a loss to cure the common cold, but an effective means for containing its spread was used in the hospital. As mentioned before, Medical Department regulations called for a high degree of ventilation in the hospital (Woodward 1863: 104-105). Although the intent at the time was to prevent the spread of "malignant miasmas" which were supposed to be the cause of all disease, this practice of heavy ventilation had the serendipitous side effect of containing the spread of airborne viruses.

The rate of respiratory diseases suffered by the troops at Fort Hoskins is to be expected given the cold, damp nature of the climate. It is interesting that some of the more deadly respiratory diseases, such as tuberculosis or pneumonia, were not in greater evidence. The isolated nature of the fort, which caused there to be only limited contact with the general population, may have protected the soldiers from exposure to these often highly contagious diseases to some degree.

Diseases of the Digestive System- This category yielded a total of 182 cases, representing 13.5 % of the total cases treated at the post. One of the ways the troops at Fort Hoskins seem to have benefited from an advantageous local situation is shown in the statistics for digestive complaints. Included in this category are Colica, Constipatio, Diarrhea, Disenteria, Dispepsia, Gastritis, Hepatitus, and Tonsilitus. The 87 cases of Diarrhea and 21 cases of Disenteria represent 50% of the total number of cases in this category. Constipation represents 19% of the total with 41 cases reported, and the 35 cases of Tonsilitus are another 16% of the total.

Compared to the U.S. Army in general, Fort Hoskins had an exceptionally low incidence of digestive diseases. It is remarkable that while 72% percent of the annual mean strength of the U.S. Army was affected by digestive diseases in a given year, at Fort Hoskins only 36% were affected per year. One explanation is that the supply of fresh water available at the post was comparatively good. Piped directly to the fort from a fresh spring, this enabled the post to avoid the disastrous effects of a poor or contaminated water supply which plagued many other frontier posts. Another explanation for this discrepancy is that soldiers at Fort Hoskins seem to have had a much more nutritious and diverse diet than soldiers at other frontier posts. Growing their own vegetables at the post, and regularly buying food from farmers in Kings Valley, these

supplements to the standard army fare apparently were very beneficial to the overall health of the post.

Fevers- A total of 105 cases of fevers were reported, representing 7% of the total cases at the post. Included in this classification are Febris Intermittens Quartana, Febris Intermittens Tertiary, Febris Intermittens Remittens, Typhiodes, Erysipelas, and Rheumatisma. Eighty four cases of Rheumatic Fever represent 80% of the total, but it is important to note that rheumatism was often a misdiagnosis during this time period, and a large percentage of these cases are probably syphilis. Despite this fact, the totals for all other fevers indicate that Fort Hoskins was an exceptionally healthy post compared to the rest of the army. The incidence of fevers is so low that discounting Rheumatisma, only 2% of the soldiers at Fort Hoskins were affected per year, contrasting sharply with the rate of 56% for the entire army. This is an important example of the relative immunity of the post from this category of disease being due almost entirely to its location and climate, and should not be interpreted as the result of superior ability on the part of any of the physicians who served there. Medical science was relatively helpless, for example, in the face of an outbreak of typhoid or yellow fever, and isolation of the infected soldiers was a surgeons' only defense against such outbreaks. Although malaria was present in Oregon at this time, Fort Hoskins was not in an area where it was prevalent.

Alcohol Related Entries- The 50 cases of alchohal related cases in the Sick Book represent only 3.5% of the total. While the entries of Ebrietas (drunkenness) and Delerium Tremens show the results of the use of alcohol at the post, it is highly likely that they affected a much greater percentage of the soldiers at Fort Hoskins than the relatively small number of entries suggests. These figures, if taken at face value, indicate a slightly lower incidence of alcohol related entries than in the U.S. Army as a whole, with 4.5% of the annual mean strength affected in the Army as opposed to only 2.3% at

Fort Hoskins. However, first hand accounts from post diaries indicate that a heavy use of alcohol was very common. For example, a typical account states, "McCarthy & Howard go in to Hoskins for a Drunk. Will undoubtedly succeed" (Barth 1959: 162).

The rate of drunkenness at the post was unquestionably much higher than the figures in the Sick Book suggest, and it is possible that these figures are only a polite fiction. It is logical to assume that the commanding officers who served at the post would not want to give headquarters the impression that discipline was lax, and that they were presiding over a group of drunken, ineffectual soldiers. Therefore, it is possible that medical officers were either discouraged from entering a large number of these cases into their quarterly reports, or had a tacit understanding that such action would reflect poorly upon the commanding officer.

Conclusions

The medical data from Fort Hoskins is important for several reasons. First, it validates generalizations regarding the relatively healthy climate of Oregon and Washington. Table 9.3 shows the statistics from all of the major geographical divisions of command from pre-Civil War army medical statistics. Aggregate mean strength of the military in each particular region is used to calculate the percentage of soldiers incurring illness or death annually. The Oregon and Washington area ranks third in overall health in the nation.

By using the monthly Sick and Wounded reports from Fort Hoskins to the Medical Department, it is possible to calculate the percentage of annual mean strength affected by particular categories of disease at the post. These statistics represent a window into the life of soldiers at Fort Hoskins, and are presented in Table 9.4. Although specifics are discussed in the preceeding section, the overall conclusion is that Fort Hoskins was

Table 9.3 Health in the U.S. Army, 1849-1859
(Breeden 1979: 366-367; FHMR, 1857-1866)

Geographical divisions of command	Total number of deaths	Percentage of aggregate mean strength incurring illness	Percentage of aggregate mean strength dying	Overall rank based on health of soldiers
New England	23	192.27	.95	**2**
East Coast	196	241.56	1.70	**6**
Southeast Coast	100	314.02	3.02	**11**
Eastern Interior, North	63	355.85	.76	**5**
Eastern Interior, Central	95	307.45	2.02	**7**
Eastern Interior, South	234	441.51	4.40	**13**
Middle America, North	147	288.27	1.56	**4**
Middle America, Central	552	351.11	5.57	**14**
Middle America, South	109	302.42	2.30	**8**
Texas, Southern Frontier	407	359.03	5.57	**12**
Texas, Western Frontier	296	307.58	2.26	**10**
New Mexico	286	261.18	2.15	**15**
Utah	48	184.54	.82	**1**
California	169	248.87	2.19	**9**
Oregon and Washington	88	230.23	.98	**3**

Table 9.4 Comparison of Annual Mean Strength Affected at Fort Hoskins with the U.S. Army (FHSB, Breeden 1979: 365-366).

Class of Disease	Total Number of Cases		% of Total Cases		Percentage of Annual Mean Strength Affected Per Year	
	U.S. Army	Fort Hoskins	U.S. Army	Fort Hoskins	U.S. Army	Fort Hoskins
Fevers	67,850	11	19.67	1.1	55.99	2.1
Digestive System	88,028	186	25.51	19.31	72.65	36.38
Resperatory System	39,021	157	11.31	16.3	32.20	30.7
Brain and Nervous System	8,948	17	2.59	1.76	7.38	3.32
Genito-Urinary System	14,673	150	4.25	15.57	12.11	29.34
Fibrous and Muscle Structure	15,456	57	4.48	5.91	12.76	11.15
Absesses and Ulcers	24,619	89	7.14	9.24	20.32	17.4
Wounds and Injuries	40,288	187	11.68	19.41	33.25	36.57
All Other Diseases	46,137	105	13.36	10.9	37.69	20.53

especially fortunate regarding the health of its soldiers for several reasons. The isolated nature of the post kept the soldiers relatively safe from outbreaks of some of the more deadly contagious diseases of the nineteenth century. The comparatively good diet and supply of untainted fresh water helped the post manage to avoid some of the more serious bowel complaints which regularly took their tool on other frontier posts. The cold, damp weather contributed to resperatory complaints at approximately the same rate as the U.S. Army as a whole, but none of these proved fatal to a soldier. Fevers were nearly non-existant, and again were usually no of a serious nature. The rate of wounds and injuries, suffered at a slightly higher rate than in the rest of the army, points to the active life led by the soldiers. Difficult manual labor was a regular feature of their daily lives, and the nature of thier injuries reflects this life very clearly. Finally, the abnormally high rate of STD's also gives us a clear picture of an aspect of life at the post which might otherwise go unnoticed. The loneliness and isolation of the soldiers is reflected in these figures, as is the desperate circumstances and dire prospects for other types of employment of the women who made their living from this practice.

CHAPTER 10: ARCHAEOLOGICAL INVESTIGATIONS AT FORT HOSKINS

Post Abandonment

The military permanently abandoned Fort Hoskins on April 10, 1865, and one year later, the land, buildings, and other assorted materials from the post were put up for public auction. Unfortunately, no records of the sale of June 1, 1866 have been located. The eventual disposal of the buildings, and the persons who bought them, remain a mystery to researchers at this time. One of the officers houses from the post was evidently moved intact to the town of Pedee, but has been so heavily altered that little of its original design remains (Brauner, Personal Communication, 1994). The fort site, and the hospital building, were purchased by the Frantz family, who built a small Gothic house in the Hospital area and developed the fort into a farm. Fort Hoskins remained in the hands of the Frantz family, and later the Dunn family who were Frantz relatives, for the next 125 years. The land was purchased by Benton County Parks Departmentin 1991.

Excavation Strategy and Methodology

Archaeological investigations at the Fort Hoskins infirmary were conducted in 1993 and 1994, under the direction of Dr. David Brauner. Benton County Parks Department plans to eventually convert the Frantz-Dunn house into an interpretive center for the Fort Hoskins County Park. This small Gothic building is located on the site of the post hospital, and is shown in Figure 10.1. The building will require significant structural and foundation work in order for this to occur. Accordingly, archaeological testing was

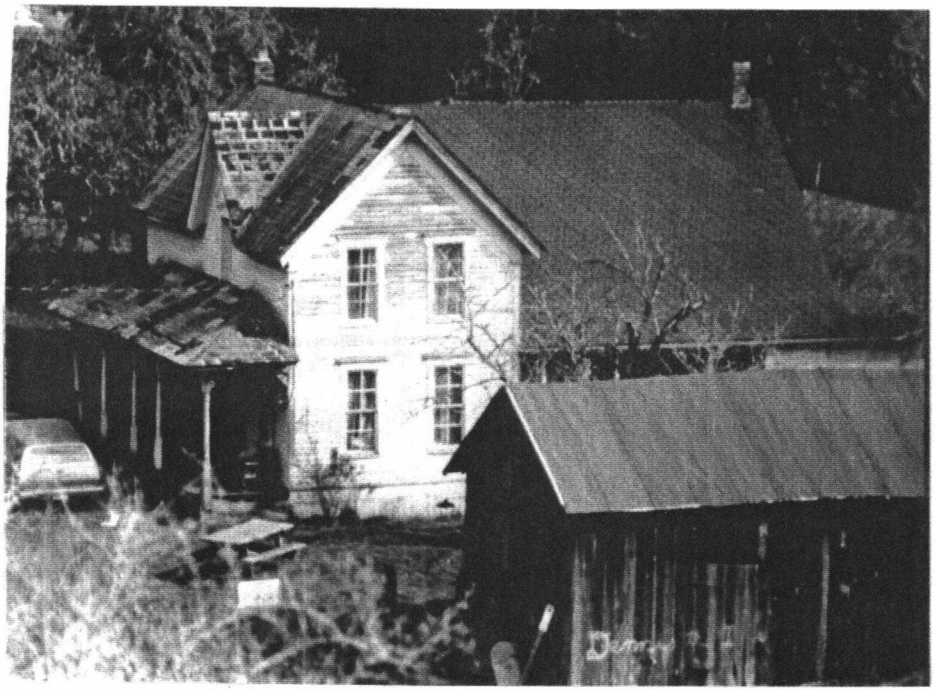


Figure 10.1 Frantz-Dunn house, circa 1976 (Brauner)

needed to assess the potential damage that such work could have on the archaeological resources present from the military occupation of the site.

Pre-field investigations into the origins of the Frantz-Dunn house were important in determining the field strategy used in the two years of excavation carried out at the site. The initial step in this investigation was determining the status of the Frantz-Dunn farmhouse. According to local tradition, the Frantz-Dunn house was the original military hospital, and it is in fact located directly on the military hospital grounds as shown by the E.Y. Chase map of 1864. Figure 10.2 shows the relative sized and positions of both

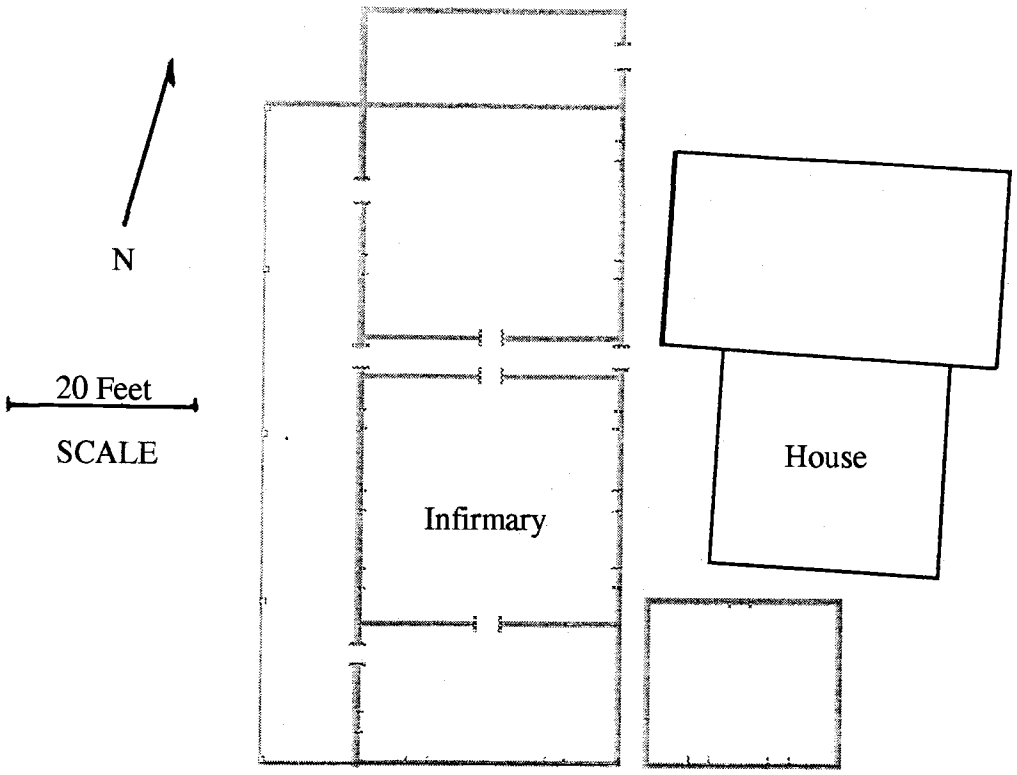


Figure 10.2 Frantz-Dunn house and Hospital Comparison.

structures. However, initial research indicated that the house could not have been the old military hospital. First, according to the 1864 Chase map of the post, the approximate size of the Hospital building was 80 feet long by 62 feet wide. The footing of the Frantz-Dunn house is only 40 feet by 32 feet, and is too small to be the original Hospital. In addition, the dimensions of the house are not comparable to any individual room within the hospital, thereby nullifying the hypothesis that a portion of the Hospital was converted into the house.

An exhaustive on site survey using the 1864 Chase map was conducted in an attempt to determine the exact position of the hospital in relation to the present structure. Terrain and topography, and a lack of 1864 landmarks which could be used for a datum, made it very difficult to survey in exactly where the hospital would have been located. Preliminary work indicated that the Hospital would have been located just adjacent to the present building on the west side. This initial attempt at location was estimated to be accurate to about 15 feet, but was puzzling in that if the surveyed location was correct, a large portion of the hospital building would have had to have been built on tall pilings to accommodate the changes in elevation at the site.

A recently discovered photograph indicates that this hypothesized location was much more accurate than was first imagined. Figure 10.3 shows the newly built Frantz house in the foreground. One remaining studwall of the partially torn-down Hospital is visible in the background on the west side. This corresponds exactly to the location determined from the Chase map. The presence in the photograph of the scavenged studwall from the hospital, along with the still intact roof line, also indicates that the Frantz-Dunn house was partially constructed from scavenged remains of the Fort Hospital. If this were so, it would point to a construction date for the Frantz-Dunn house that was fairly soon after the military abandonment of the post, probably 1866 to 1869. These impressions were confirmed by Historic Architect Philip Dole, who looked at the house and concluded from its construction that it dated to the late 1860's or the early 1870's (Brauner, personalcomunication, 1993). Presently, although the location of the original hospital is now known to within about five feet of its original location, the exact placement of the building will have to be determined through future archaeological investigation.

County planners determined that one of the first requirements of realizing the plan to utilize the Frantz-Dunn house for an interpretive center would be to replace the present foundation of the house before significant restoration work on the structure could begin.

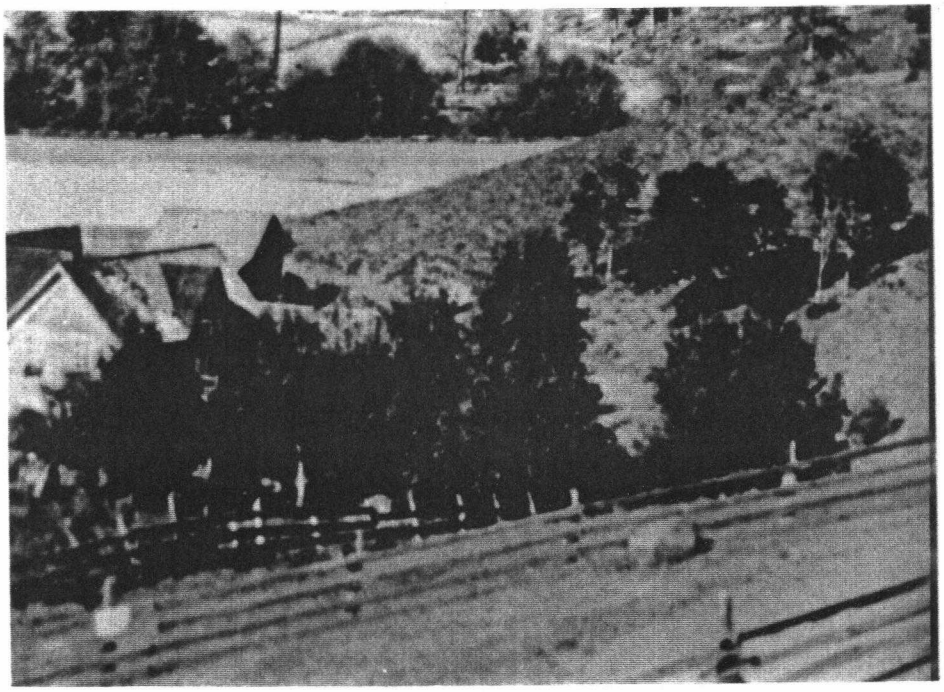


Figure 10.3 Frantz-Dunn house and Studwall of Hospital (Brauner)

The field strategy for excavation was therefore determined primarily by the necessity to explore the area around the footing of the Frantz-Dunn house in order to determine whether archaeological resources from the military occupation of the post would be affected by the ground disturbing foundation work planned by the county. For this reason, excavation was primarily concentrated around the footing of the house, and 15 1x2 test pits were placed around the base of the building at regular intervals. Figure 10.4 illustrates the test pits in the immediate vicinity of the house. A secondary goal was to attempt to determine site boundaries and if possible, the exact location of the infirmary building. As time permitted, eight additional 1x2 test pits were placed in the surrounding

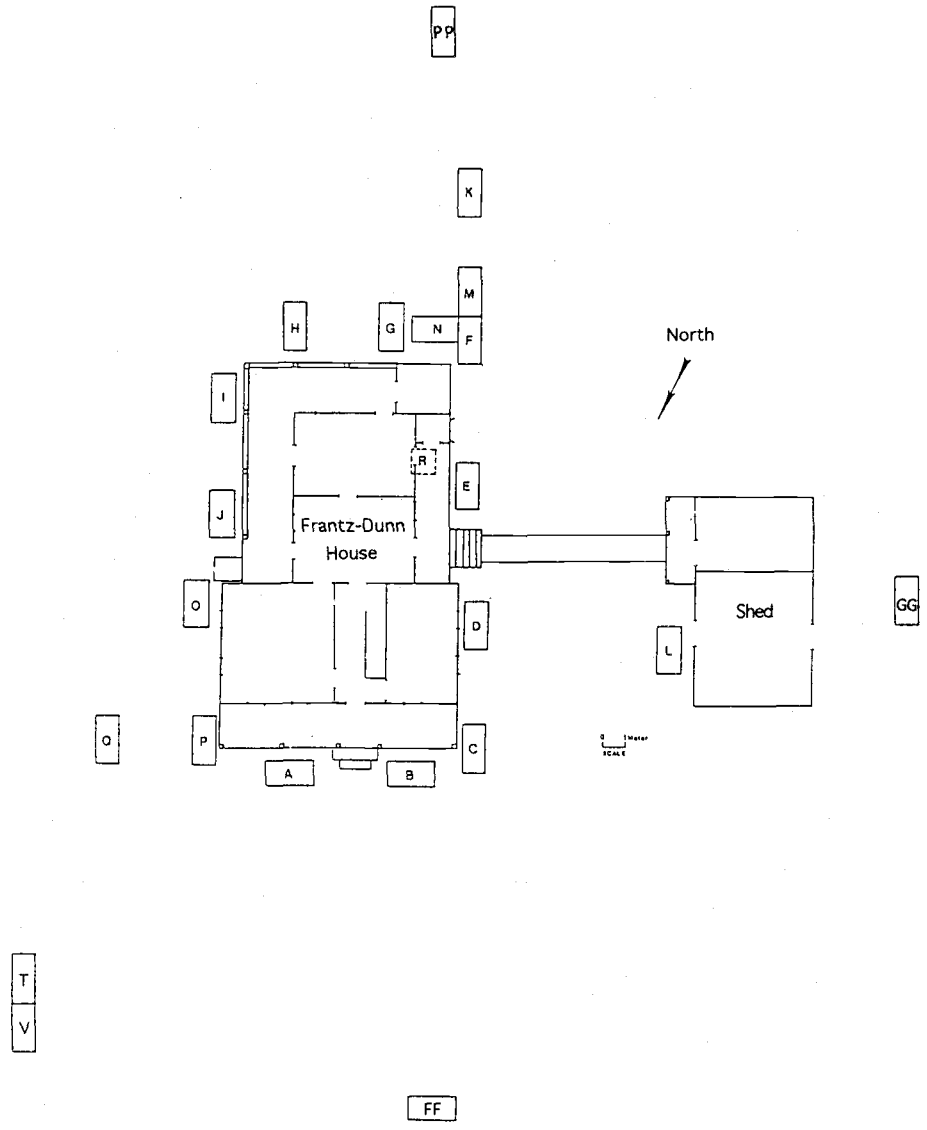


Figure 10.4 Test Pit Configuration (Brauner and Stricker 1994: 137)

area of the Hospital. Fieldwork was conducted during the summers of 1993 and 1994, but due to monetary and time constraints was limited to two week periods during each summer. A total of 23 1x2 meter test pits were excavated during the two field seasons.

Similar excavation methods were employed during both field seasons. Excavation units were assigned a letter designation, and arbitrary 10cm levels were used for vertical control. All test pits were 1X2 meters, and oriented parallel to the Frantz-Dunn house out of the necessity to closely conform to the footing of the building. Features were mapped and photographed in situ, and all excavated matrix was screened through 1/4-inch mesh. Field notes were written for each level by the crew members, noting soil morphology and changes, and artifacts recovered. Field notes were also taken by the crew chief, noting the progress of each crew, artifact types recovered, and changes in personnel. All test pits were photographed and mapped after excavation was completed.

Material Culture

For this study, an artifact was defined as all items brought to the site as the result of human activity. All artifacts recovered during excavation were cleaned, stabilized if necessary, and assigned an artifact number according to the Smithsonian Institution binomial system. Because the focus of this study is the military hospital at Fort Hoskins, the artifacts associated with the civilian occupation of the site are not included in this discussion.

One of the complications encountered during this project was the fact that the Hospital site was occupied by the Frantz family very quickly after the military abandoned the post. In addition, many of the areas tested showed evidence of post depositional disturbance. As a result, it is difficult to determine whether particular artifacts date from the military or civilian occupation of the site. In order to attempt to ensure that only artifacts

associated with the Fort Hoskins hospital were used in this study, the following criteria were applied to the artifact assemblage recovered at the post: All items which could be associated directly with the military occupation of the fort are included, such as buttons, uniform parts, and military ammunition. All other types of artifacts are included only if they contain a diagnostic feature which indicates a manufacturing date during or prior to the Civil War. This system is inherently imperfect, and undoubtedly excludes many artifacts which might have been deposited during the military occupation but contain no diagnostic feature which dates their manufacture conclusively to, or prior to, the Civil War period. It may also include artifacts which were manufactured during or before the Civil War, but which were used for extended periods of time by the Frantz family and were deposited after the military occupation of the site had ended. Unfortunately, present artifact analysis techniques simply do not provide a means to make a more accurate determination. The following artifact analysis represents the authors best attempt to sort and classify the cultural material recovered at the site.

Description is organized using Sprague's functional classification scheme, which assigns primary, secondary, and tertiary levels for categorization (Sprague 1981: 251-261). The primary level or category represents the context of utilization, the secondary level or group reflects human activity or the use to which the artifact was put, and the tertiary level is sub-divided into type, class and/or variety depending on the artifact category of group artifacts. This section deviates from Sprague's typology in two sections. Because the site was a military hospital, medicine bottles represent military medicine, not personal usage as Sprague classifies, and are thus included in the military primary classification. Second, green bottle glass would usually be listed under indulgences in Sprague's system, but a case will be made that the green bottle glass found on the site represents medicinal usage of these items, and is thus also included in the Military section. Table 10.1 provides a listing of the artifacts included in this study.

Table 10.1 Artifact Typology
(based on Sprague Classification System 1981: 251-261)

	Number Of Sample
Personal Items	
Indulgences	
Tobacco; Clay pipe fragments	9
Alcohol; Brown Bottle Glass Fragments	32
Recreation	
Marbles, Glass and Clay	3
Domestic Items	
Housewares	
Ceramics	14
Military Items	
Apparel	
Buttons	3
Epaulette	2
Ammunition	
"Minie Balls" .58 caliber	3
Round Lead Shot, .28 caliber	3
Round Lead Shot, .32 caliber	4
Round Lead Shot, .38 caliber	2
Round Lead Shot, .45 caliber	2
Round Lead Shot, .50 caliber	1
Bureaucratic	
Inkwell Bottle	1
Gun Parts	
Gun Flint	1
Medical treatment	
Green Bottle Glass	182
Medicine Bottles	3
Total:	266

Personal Items; Indulgence and Recreation

Liquor- 32 fragments of amber bottle glass were found, and only 4 diagnostic fragments were recovered, shown in Figure 10.5. The distribution of brown liquor bottle glass was not widespread on the site, with 28 of the 32 fragments coming from test pit S. Although these fragments may represent medicinal use of liquor at the hospital, they are included in this section as indulgences for reasons which will be discussed in the conclusion of this chapter.

Artifacts S-82 and S-3 are from "Dr. Place's Cundurango Bitters" bottles. These bottles were marked vertically on two sides with "CUNDURANGO", with a paper label in a flat, recessed panel which read:

> Dr. Place's Cundurango Bitters composed of Pure California Brandy, Cundurango bark and other roots and herbs. Cure For Cancer etc., appetizer and stimulant, unequaled for family, hotel and medical use. Geo. W Chesley & Co., Sacramento Cal. (Watson 1965:226)

Both artifacts are amber, flat body panel fragments with raised lettering. Artifact S-82 shows the letters "CUN..." and artifact S-3 shows the letters "...URA..." from the "Cundurango" side panel. This type of bottle is often called a "case bottle", and had four flat body panels in order to fit more bottles into the same size case for economical transport. Bottles of this type most commonly held either gin or bitters (Boyer 1994: 92).

Artifact H-66 is a finish fragment. The lip of the finish is down-tooled, and is hand finished. The manufacturing technique used is attributed mainly to the period of 1780- to 1850 (Jones & Sullivan 1985: 88, 92). This same type of finish was used on the "CUNDURANGO" bitters bottle described above, and this finish may belong to that type of bottle.

Artifact F-94 is an amber flask type base which was hand blown into a 2-piece mold. The shallow, concave base contains a raised letter "L", slightly offset in the middle. The

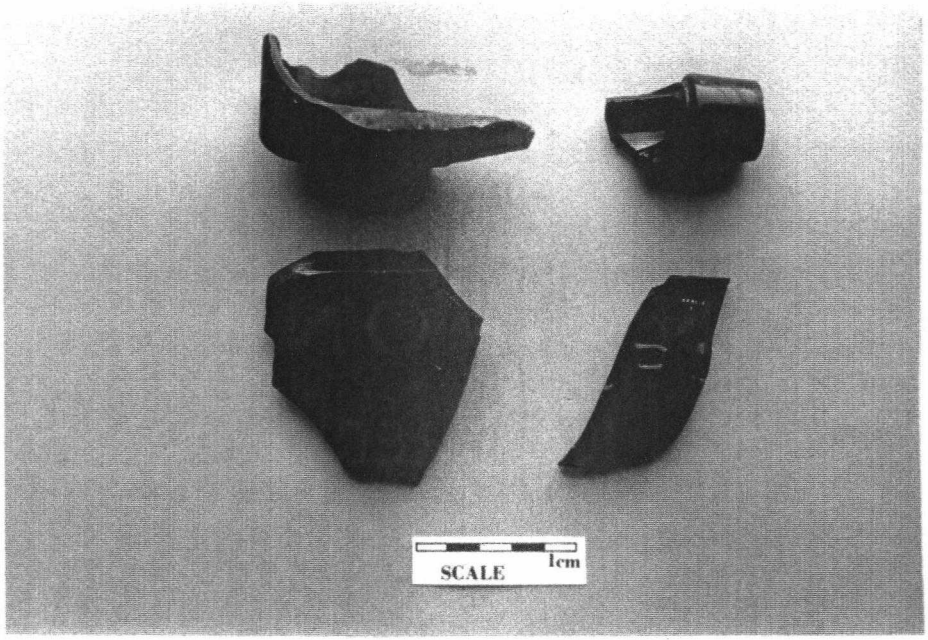


Figure 10.5 Amber Bitters bottles

surviving front portion of the body shows the letters "Ro...".

Tobacco- Both white and gray tobacco pipes were recovered at the site, shown in figure 10.6. Two fragments of the same type of unglazed clay pipe were found, and both are from the same type and style of pipe. Called a reed stem or detachable stem pipe because it was meant to be used by inserting a reed into the pre-formed bowl section, both pipe fragments feature a decorative motif of small raised circles with a small raised dot in the middle. Artifact F-602 is a portion of the bowl, with a raised ring underlining the raised circles 9mm below the rim. Artifact F-4 is a base stem fragment, with the raised circles 3mm in diameter and a raised ring 8mm from the base. Similar pipes have

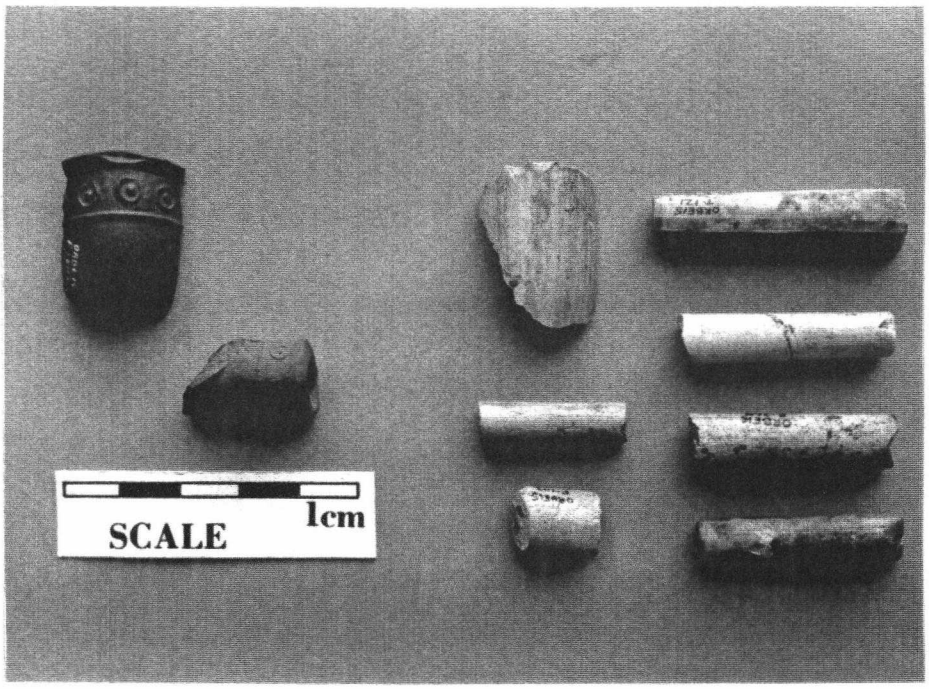


Figure 10.6 Tobacco Pipes

been found at Fort Vancouver and other western military posts, and date to the mid nineteenth century (Bell 1980: 58-60).

Several fragments of white, unglazed clay pipes were recovered, including six stem fragments and one bowl fragment. Although no diagnostic features were present, these pipes are similar in type and manufacture to pipes recovered in the upper compound of the post in the 1976-1977 excavations. Katheryn O. Bell has attempted to use Binfords bore diameter regression formula for dating this type of pipe, determining that it is not

applicable to the mid-nineteenth century clay pipes found at Fort Hoskins (Bell 1980: 47).

Marbles- Three marbles were found which could date to the Civil War era, all shown in Firgure 10.7. Marbles were a common pastime for soldiers on the frontier, but certain marble manufacturing techniques were used for long periods of time from the mid-nineteenth century, often well into the twentieth century. Thus, it is possible that any of these marbles could date to the Frantz occupation of the site. Artifacts C-59 and J-160 are both tan, unglazed clay marbles of the same type, but while C-59 has a diameter of .55 inches, CJ-160 has a .47 inch diameter. Known as "commies" because they were cheap and therefore quite common, this type of marble was extant during the Civil War period, but was produced until 1926 (Bauman 1970: 25-29). Artifact J-317 is called a "Birds-Egg" marble. Colored blue with brown speckling, and with a diameter of .55 inches, this pattern is considered indicative of an early style of marble coloring by collectors. It was manufactured prior to and after the Civil War period, but was no longer in production by the early 1880's (Bauman 1970: 27; Grist 1992: 19).

Domestic Items; Gustatory

A total of 14 ceramic flatware vessel fragments were found which could be positively dated to the Civil War era. This is a very small proportion of the total number of ceramic fragments recovered at the site, but with no means of accurately determining whether, for instance, a fragment of utilitarian whiteware ceramic dates to the civilian or military occupation of the post, these fragments are unfortunately but necessarily excluded from this analysis. Only those fragments whose manufacture could be accurately dated to the Civil War period are included, shown in Figure 10.8.

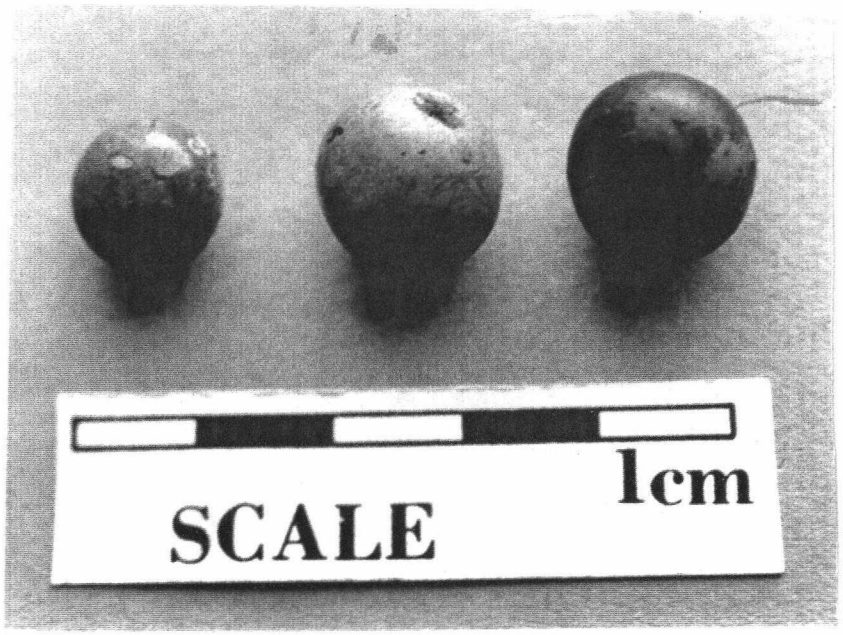


Figure 10.7 Marbles

Mocha ware- Three fragments of Mocha ware were recovered, artifact numbers S-42A, S-165, and O-13. All appear to be from the same hollow ware vessel. The fragments exhibit a dark brown glaze over a painted yellow ware fabric. Mocha ware was available in 1815, and was manufactured into the early twentieth century. Mocha glaze over yellow ware fabric was most common between 1830 and 1850 (Chapman 1993: 76-77).

Shell Edge- Three fragments of unscalloped shell edge white ware were found, artifact numbers A-235, B-135A, and B-223. These three flat ware fragments are made

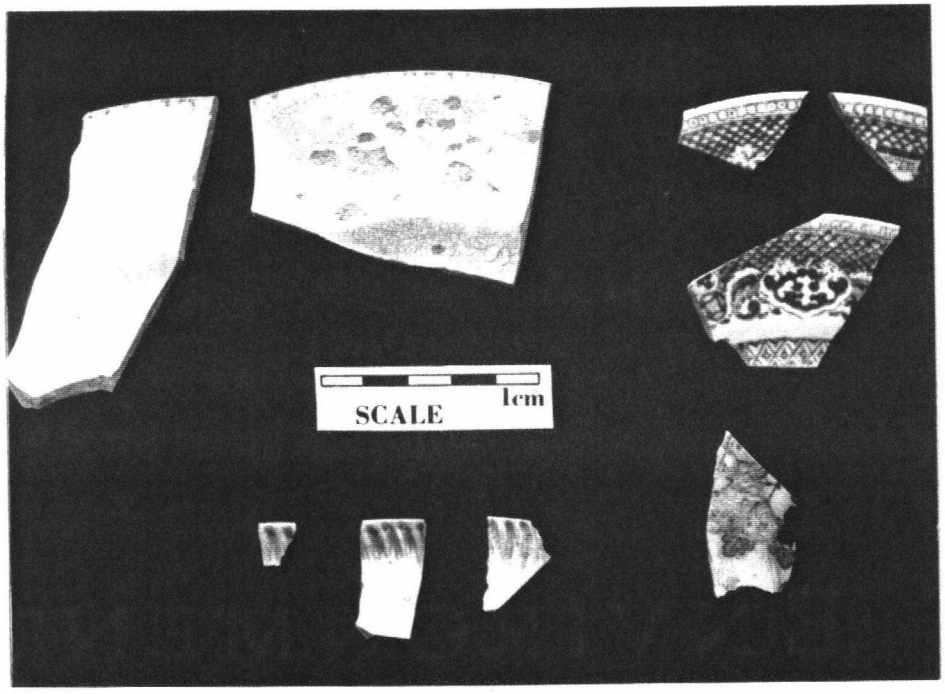


Figure 10.8 Ceramics.

of white fabric earthenware. They feature underglaze blue edge trim with impressed curved lined in groups of two. Manufactured between 1825 and 1891, they were most popular in the 1840's (Chapman 1993: 71, 208).

Feather Edge- Two fragments of blue feather edge white ware were found, artifact numbers S-103 and S-162A. Similar to the shell-edge white ware, these fragments have no lines impressed into the fabric, only blue edge trim swept laterally. This pattern type dates from 1795 to 1840 (Chapman 1993: 210).

Willow Pattern- Three pieces of blue "Willow" pattern transfer ware ceramic were found. These artifacts, numbers E- 391, D-534, and D-386, were manufactured by Spode/Copeland. This pattern was produced mainly from 1850 to 1872 (Williams 1978: 569).

Ruins Pattern- One fragment of blue, transfer ware "Ruins" pattern was found. Probably from a soup tureen or serving bowl, this pattern was manufactured between 1800 and 1864 (Williams 1978: 398).

Military Items; Apparel

Buttons- Three brass military buttons, artifact numbers E-226, T-45, and J-314 were all of the "General Service" type, showing an eagle on the front. E-226 and T-45 are sleeve sized buttons of the "Sanders type" 3-piece shell. E-226 contains an eagle with a standardized "union striped flag" shield, and T-45 contains an eagle with the letter "I" within the shield, indicating an infantry unit. J-314 is a coat sized button of the "Sanders type", and shows the standard eagle insignia with no unit designation within the shield (Todd 1974: 106-109). All of these buttons were standard issue during the Civil War These buttons are shown in Figure 10.9.

Epaulettes- Two brass epaulettes were recovered, artifact numbers F-376 and F-473. Both are part of the standard seven-tiered enlisted man's epaulette, which was referred to as "scales" in enlisted man slang (Todd 1974: 100). The fact that both were found in the same test pit may possibly indicate that originally they were both originally a part of the same epaulette.

Military Items; Armaments

Six different caliber of ammunition were found, and examples of each are shown in Figure 10.10. The ammunition proved to be an interesting find, because Medical Department regulations specifically prohibit the discharge of firearms in or around the Hospital area (U.S. War Department 1860: 68) The fact that ammunition ranging from .28 caliber to the .58 caliber "minie ball" was located in the infirmary area, and the fact that two of these showed evidence of being fired or "spent" rounds, indicates once again that official regulations on the frontier were often ignored.

.28 Caliber Shot- Three .28 caliber round lead shot were recovered, artifact numbers B-354, B-356, and J-284. This size of shot was probably used in a "buck and ball" paper cartridge, consisting of two .28 caliber balls and one .69 caliber ball, used in the 1842 musket (Boyer 1992: 107). None showed signs of being fired.

.32 Caliber Shot- Four round lead shot of .32 caliber were found, artifact numbers A-26, A-244, A-245, and B-354 respectively. This caliber suggests that the shot was used in a Colt or Remington .31 caliber pistol (Boyer 1992: 107). None showed evidence of being fired.

.38 Caliber Shot- Two round lead shot of .38 caliber were recovered, artifact numbers B-136 and R-132A. The .38 caliber was most commonly associated with the Navy Colt pistol, but many pistols of this era utilized this caliber of ammunition, making an exact determination as to the exact model of firearm used nearly impossible. (Dixie 1990: 519-520).

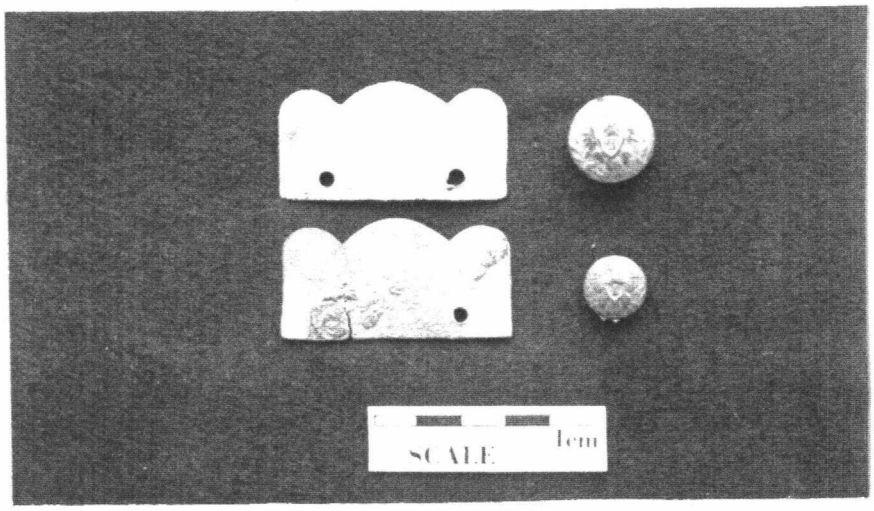


Figure 10.9 Epaulettes and Buttons

.45 Caliber- Two round lead shot of .45 caliber were found. B-308 was slightly larger at .457 caliber, but inaccuracies of casting lead shot can easily account for this discrepancy. G-333 had been fired and flattened. Both .45 caliber shot could have been used in the Colt Dragoon pistol, or the Colt or Remington navy pistol models of this caliber, but many other pistol manufacturers also utilized this size (Dixie 1990: 520).

.58 Caliber- Three "minie balls", conical lead shot used in the .58 caliber Springfield muzzle loading rifle, were found. Artifact numbers are A-234, A-235, and A-236. Artifact A-235 shows clear marks of being bitten, with teeth indentations on both sides of the middle and base portions of the bullet. All three bullets are of the standard shape and

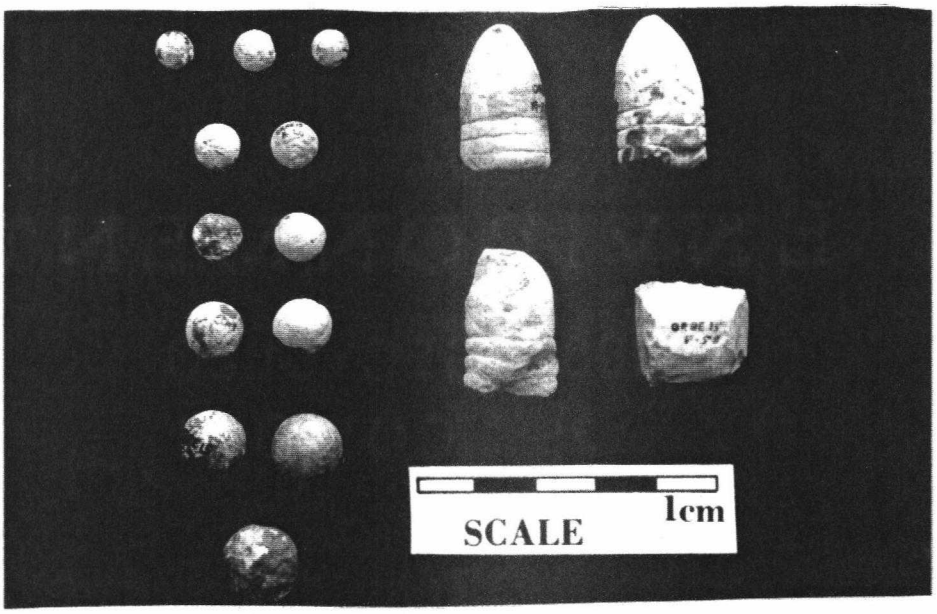


Figure 10.10 Ammunition

size, with three indented rings around the body and a conically indented base to allow the bullet to grip the rifling in the gun barrel when fired (Millis 1981: 92).

Gun Flint- One gun flint was recovered. Formed in the square "English" style, the flint is creamy white with light brown and yellow discolorations on the edges, probably from age and weathering. The flint shows signs of re-use, and may represent one of the last flint-lock weapons in use in the military, since flint lock weapons were generally phased in during the 1840's in favor of percussion caps. A flint lock weapon would have been rare in the military by the mid 1850's (Millis 1981: 92).

Military Items; Medicine

Green Bottle Glass- Green bottle glass fragments were found in greater numbers than any other artifact type. A total of 182 green glass fragments were recovered, but only 8 of these were partial or whole diagnostic fragments, examples of which are shown in Firgure 10.11. Liquor was often prescribed medicinally to soldiers and their inclusion in this section reflects a conscious departure from Sprague's typology, which would categorize these artifacts as indulgences. All diagnostic features present indicate that their manufacturing process dates the production of these bottles from 1780 to 1850 (Jones & Sullivan 1985: 88).

Artifact S-190A is the neck and finish of a bottle which was hand-blown. The finish is the "champagne" style, with a sloped top. The neck shows considerable striations from the stretching of slowly cooling glass, as was common from the hand-blowing process.

Artifact C-188 is the base of a mold blown bottle. A large kick-up of the "mamelon" type is present, but broken off near the apex of the kick up. The base shows heavy wear marks, possibly indicating a long period on continual reuse.

Artifact T-179 is a mold-blown base, with a very thick mamelon type push-up. The color of the green glass is exceptionally dark, and the base shows few wear marks.

Artifact S-88 is a broken base fragment. The bottle was mold blown, and the push-up is the conical style common to the early to mid-nineteenth century (Jones 1986:95) The base shows few wear marks.

Artifact S-156A is a broken kick-up of the mamelon type.

Artifact S-156B is a broken base fragment. The bottle was mold blown, and the base shows few wear marks.

Artifact S-190C is a broken kick-up of the mamelon type.

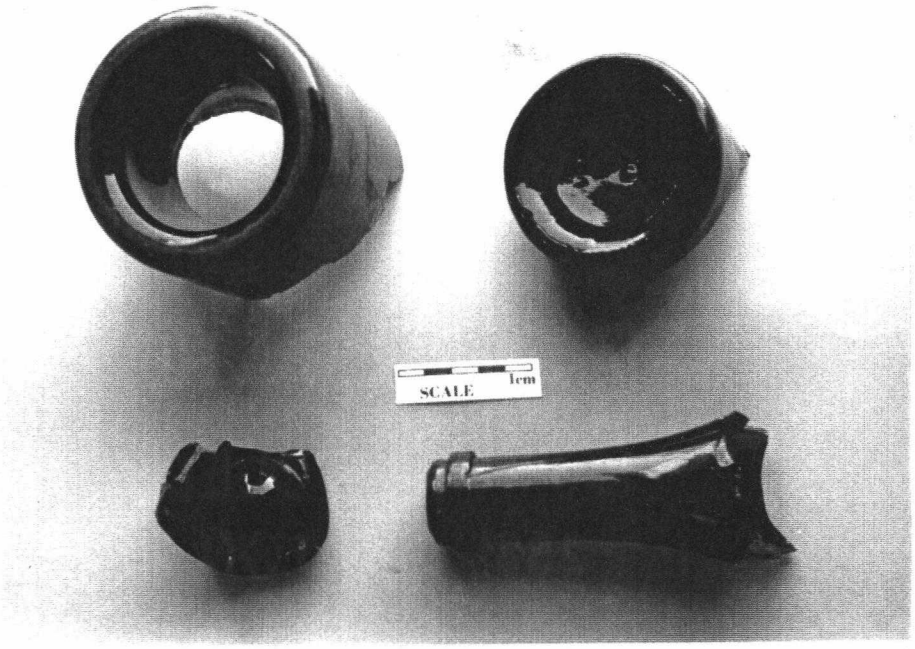


Figure 10.11 Mold Blown Green Bottle Glass

Artifact F-92 is a broken finish of the wine or brandy style (Jones & Sullivan 1985: 92). The lip of the finish is down tooled.

Medicine Bottles- Although many small glass fragments were discovered which are possibly from patent medicine bottles , only three bottle fragments were found in a large enough size to determine an accurate date of manufacture. All are pictured in Figure 10.12. Artifact S-50A is a clear glass bottle which was hand blown into a 2 piece mold. A hand-finished "Perry Davis" type with a tapered neck and sloped shoulders, the body is

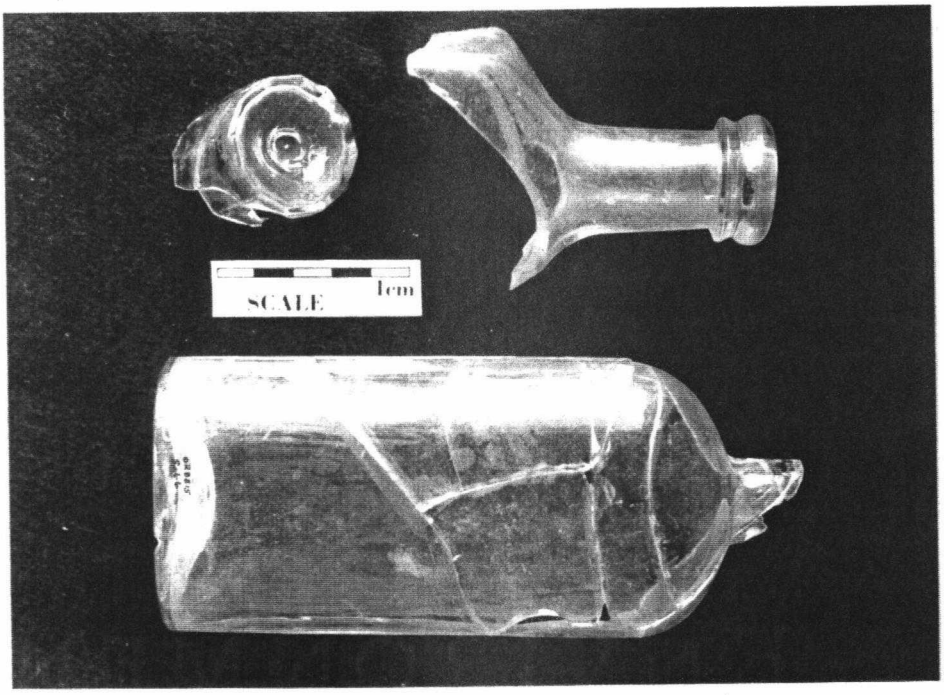


Figure 10.12 Medicine Bottles

rectangular with four flat unrecessed panels and flat chamfered corners. This bottle dates to the mid to late nineteenth century (Jones & Sullivan 1985: 88). Artifact S-66 is a clear glass flask type bottle, with an ovoid body shape. The base is shallow concave, with a round pontil mark in the center. The bottle is broken at the neck, so no finish is present. This bottle type dates from 1750 to 1880 (Jones & Sullivan 1985: 27). Artifact B-381-2 is a twelve sided clear glass medicine bottle. Hand blown into a 2-piece mold with 12 flat body panels, two mold seams are present. The base is a shallow concave type with a round pontil mark slightly off center. The bottle is broken and no shoulder, neck or finish is present. This bottle dates to the mid to late nineteenth century (Jones & Sullivan 1985: 88).

Military Items; Bureaucratic

One complete octagonal ink bottle was found, shown in Figure 10.13. It matches exactly an ink bottle found in one of the officers privies excavated in the 1970's in the upper compound at Fort Hoskins. The body is conical, with an octagonal base and eight sloping paneled sides. Each of the eight side panels is 1 inch wide at the base of the bottle, and tapers up to the short, hand finished neck. Hand blown into a 2 piece mold, a glass pontil
mark is in evidence in a round, shallow and slightly offset base indentation. The color is amber. The artifact dates to the mid- nineteenth century (Jones and Sullivan 1985: 73,108).

Conclusions

The primary goal of testing the area around the footing of the Frantz-Dunn house for a potentially important archaeological component was accomplished by this excavation. Only test pit S yielded a high concentration of mid-nineteenth century material culture. The 1X2 meter test pit was excavated to a depth of 50 centimeters, and contained a total of 14 artifacts which could be positively dated to the Civil War era. Many other artifacts found in this pit probably date to the Civil War period, but lack distinguishing diagnostic features, such as 24 amber bottle glass fragments, 101 green bottle glass fragments, and 121 fragments of white earthenware ceramic. However, only 2 of the 22 test pits excavated were entirely devoid of artifacts which could be dated to the Civil War period, and the vast majority of test pits yielded between 3 to 6 positively datable artifacts from

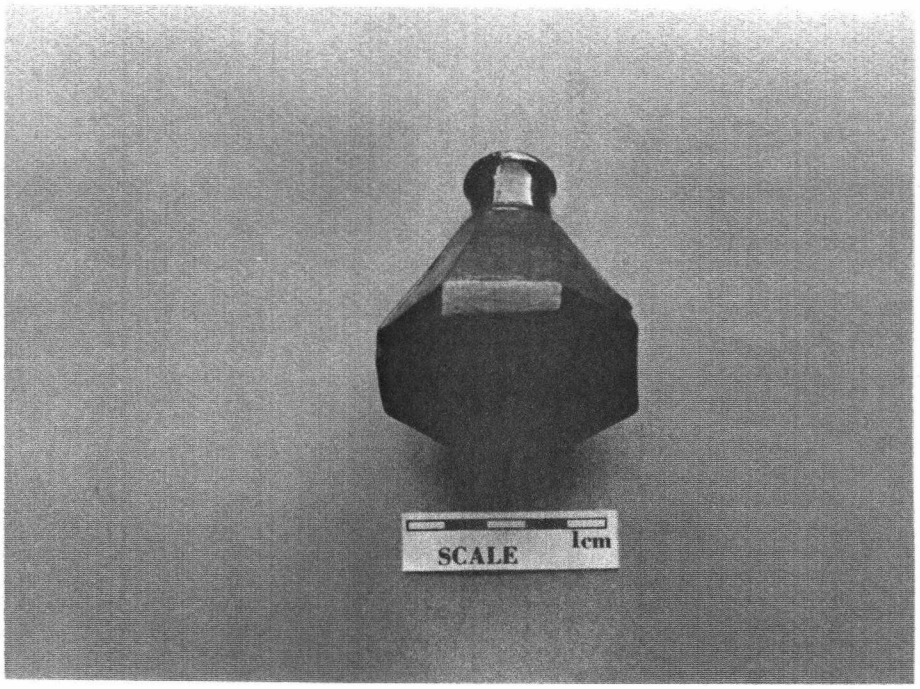


Figure 10.13 Amber Umbrella Style Ink Bottle

the military occupation of the site. In sum, the nineteenth century artifact scatter from the Hospital is both widespread and generally consistent throughout the site.

Initial research into the material culture of a military hospital from this era indicated the possibility of finding a wide variety of artifacts which would be specific to medical practice. In addition to the wide variety of medicine bottles which would have undoubtedly been present at the hospital, many other objects which were specifically related to medicine would have been present in the hospital. Table 10.2 is based on a Medical Department Property Returns document discovered in the National Archives in Washington D.C. It is the only document yet uncovered that lists the Medical Department property which was present in the hospital at Fort Hoskins, but it provides excellent insight into the material culture of a nineteenth century military hospital on the frontier.

Table 10.2 Medical Supplies and Equipment at Fort Hoskins in 1859 (FHMR: December 31, 1859)

Instruments	Number
Amputating	1
Ball Forceps	1
Bougies, metallic	6
Catheters, silver	2
Dissecting	1
Obstetrical	1
Pocket	2
Pulleys	1
Stomach pump	1
Teeth extracting	1
Trephining	1
Trocars	1
Trusses, hernia	6
Bedding	**Number**
Bedsheets	25
Blankets	50
Coverlets	30
Gutta Percha cloth	5
Matresses	14
Mosquito bars	13
Pillow cases	35
Pilow ticks	25
Sheets	80
Hospital Stores	**Number**
Brandy	32
Tea	36
Wine, port, sherry, and madeira	52
Whiskey	45
Miscellaneous	**Number**
Panniers	1
Rain gauges	2
Hygrometer	1
Thermometer	1
Towels	30

The work conducted at Fort Hoskins in 1993 and 1994 represents only a limited testing phase of archaeological excavation at the site. However, it was hoped that the artifact assemblage obtained from the 22 1x2 test pits test pits would be large enough to provide not only a confirmation of the location of the hospital as shown on the Chase map, but also a representative sample of the material culture of a mid-nineteenth century military hospital. Initially, analysis of the artifacts appeared to indicate that this was not the case. The archaeological assemblage obtained from testing around the hospital site indicated unquestionably a military site of the mid-nineteenth century. The surprising aspect of this assemblage was that it was so similar, both in artifact types and frequencies, to the sample obtained in the main compound of the fort during the 1976 and 1977 excavations. With few exceptions, initial comparisons showed little which would indicate that the artifacts came from a hospital site.

The lack of medical-specific artifacts was surprising. The material culture of an 1850's era military hospital would have included many items which would probably not be present in large quantities in any other area of the post, such as instruments or medicine bottles. Three dateable medicine bottles were recovered, and the only other artifact found which could be directly related to medical practice at the post was the minie ball which showed clear evidence of being bitten, a common practice in an era where anesthetic was almost non-existent. In sum, without the 1864 Chase map to verify location and site use, it would have been difficult to determine that this collection came from a hospital area from the artifact assemblage itself.

Research into excavations of other frontier military forts of this era revealed that while many similar sites have been excavated, little research has been done on hospital material culture. The vast majority of reports dealing with such sites mention the hospital only in a list of the buildings present on the site. Only two reports dealt with the hospital area as a discrete entity. These reports proved revealing in that the material recovered from both sites was very similar to that recovered from the Fort Hoskins hospital.

A distinct lack of medical specific artifacts was reported at both sites. At Cantonment Burgwin in New Mexico, excavated in 1979, researcher Anne Woosley reported that the only medical specific artifacts recovered were fragments of tincture bottles, and soda bottle fragments. Although many fragments which might have been tincture or soda bottles were recovered at Fort Hoskins, no bottles were complete enough to specify type or use. Several other artifacts at Cantonment Burgwin, such as a metal basin which might have been used for bathing wounds and a tin box which may have held pills, may also have been used in medical treatment. Woosley was so surprised at the lack of medical specific artifacts that she believed that the hospital area must have been cleaned thoroughly prior to the abandonment of the post (Woosley 1980: 37-38).

Donald Hardesty excavated the hospital area of Fort Churchill in Nevada in 1980 in an attempt to establish a distinct "artifact pattern" for each different type of structure. After comparing the archaeological assemblage from the hospital with the other buildings at the post, Hardesty also noted a lack of medical specific artifacts. Statistical analysis showed, however, that bottle glass from alcohol containers was three to four times more prevalent in the hospital area as in any other area in the post (Hardesty 1981: 294-295).

Comparisons with the artifacts recovered at the Fort Hoskins hospital shows interesting similarities between all three sites and may suggest trends that could hold true at other frontier military posts. Medicine bottles, surgical instruments, or other artifacts which would be directly attributable to medical practice at the posts are either few in number or totally absent. However, Hardesty's finding that alcohol bottles can be used as an indicator artifact for the hospital holds true at Fort Hoskins and may be a key to other frontier military hospital sites. At Fort Hoskins, the liquor bottles recovered in the 1976 and 1977 excavations from the main area of the post were concentrated almost exclusively in the privies. (Brauner, personal communication, 1996). This indicates illicit drinking, and the fact that very few liquor bottle fragments were recovered in the common areas of the post reflects the ban on alcohol which was present for most of the

existence of the fort. In the hospital area however, wine or liquor bottle fragments were found in 20 of the 22 test pits excavated, and were present both under the hospital building and in the surrounding grounds. This contrasts sharply with their near total absence in the other areas of the post. For this reason, it is believed that these artifacts represent military medical practice, and they are therefore included as military items in the material culture section of this chapter.

Finally, there may be sound historical reasons for the absence of many medicinally related artifacts in this collection. The lack of medicine bottles in the assemblage may be the direct result of careful use and re-use of scarce supplies on the frontier. It is unfortunate that the records of supply for medicines used at Fort Hoskins were not located at the National Archives, however it is logical to assume that the Medical Department would ship most these substances in bulk. The initial supply of medicine bottles sent to the post would therefore be constantly reused and recycled. Difficult to obtain items are generally husbanded carefully, and with the exception of occasional accidental breakage, these bottles appear to be a generally rare item in the archaeological record of western frontier posts. In addition, the relatively few medicine bottles found may also reflect attitudes about the necessity for cleanliness in the hospital ward. Physicians of this time had little understanding of how disease was spread. It is possible that precautions were taken to carefully dispose of any item which came into contact with ill patients. The lack of surgical instruments may be explained simply because of the cost and the relative scarcity of these items. Surgical kits were considered so valuable that surgeons in possession of them were required to submit an annual report, detailing the condition of each instrument. If any items were broken, the expence of replacing them had to be justified to the Medical Department in writing (Woodward 1863: 137). In fact, while Fort Hoskins was between surgeons and a hospital steward was caring for the soldiers, the Medical Department issued orders that the medical instrument kit at the fort was to be shipped to Fort Vancouver rather than leave it for eventual use by the soon to

arrive surgeon (FHLB, October 11, 1863). It is therefore unlikely that such highly valued and well accounted for items would have been carelessly broken and strewn about, to be deposited in the archaeological record.

CHAPTER 11: SUMMARY AND CONCLUSIONS

Historical Perspective

The study of health and illness at a frontier post is important. It is this information that offers unique insights into the lives of the soldiers stationed there. The battlefield medicine of the eastern armies during the Civil War is well documented, but does not tell the frontier story. Differences in mission, daily life, environment, and composition and health of the troops all indicate that medicine on the frontier should be studied as a separate entity from battlefield medicine. At Fort Hoskins, several themes become apparent which are probably typical for many other frontier military posts.

The importance of examining the type of medical personnel in charge of the infirmary is made clear by their differing qualifications and abilities. At Fort Hoskins, generalities made regarding regular army surgeons, volunteer surgeons, hospital stewards, and contract surgeons are borne out by study of primary sources from the post. The regular army surgeons of the pre-Civil War Medical Department were generally competent and methodical practitioners who were often some of the best physicians on the sparsely populated frontier. However, the lack of incentive for demonstrated excellence, and the moribund framework of the Medical Department could blunt their efforts and effectiveness. The chaotic state of the medical profession during the mid-19th century shows itself in the highly varied qualifications and abilities of surgeons serving with Volunteer companies, who represent a cross-section of the American medical profession as a whole. The significant responsibilities of the hospital stewards were often exaggerated on the frontier, as at Fort Hoskins where a hospital steward was actually in charge of the post for several periods of time. Finally, the problems the army

experienced regarding the hiring of competent contract physicians were also experienced at Hoskins, validating the army's later conclusion that it was better to simply hire physicians on a permanent basis.

Life on the frontier was a difficult, often debilitating prospect. Characterized by hard work, poor food, boredom, and a heavy use of alcohol, these aspects of frontier life show themselves clearly in the medical statistics of the post. The high rate of trauma suffered by these soldiers indicates typical accidents which normally occur with heavy physical labor. The often poor quality of diet is reflected in the numerous digestive complaints, a situation which was relatively better at Fort Hoskins than at most frontier posts. The boredom associated with garrison life is illustrated at Fort Hoskins by the heavy incidence of sexually transmitted diseases, while the use of alcohol is indicated not only by the numerous diagnoses of delerium tremens and ebrietas, but also by a high accident rate suffered in part due to drunkenness while on duty.

Another conclusion of this thesis is that despite the primitive state of medical science at the time, the abilities and competence of a specific surgeon could often have a significant affect on the health of a frontier post, and the location of a fort to the troops overall health was also of great importance. At Fort Hoskins, men of differing ability served as Post Medical Officer. Historical accounts from other frontier posts indicate that problems with camp sanitation, fresh water, outbreaks of infectious disease, and dietary concerns were generally controllable if a competent and motivated post surgeon took steps to deal with them. Although quantification of relative success between individual surgeons is difficult, it is instructive to note that soldiers at the post had very strong opinions regarding the competence of the physicians in charge of the infirmary, and were willing to leave the post and pay money from their own pockets in order to obtain quality medical care when the surgeon in charge at Fort Hoskins was not held in high regard. Although the generally primative state of medical science at the time precluded any effective treatment of many of the more serious diseases of the day, an effective Post

Medical Officer could prevent many of these diseases from striking the troops in the first placeby enforcing basic rules of camp sanitation.

Archaeological Perspective

Interpretation of the archaeological data recovered at the Infirmary indicates important trends which need to be validated or disproved by further excavation at Fort Hoskins, as well as other frontier military posts. The number of medical specific artifacts recovered from the infirmary was much smaller than initially anticipated. Comparison to similar archaeological assemblages from infirmaries at other posts indicates that this may be the rule, and not the exception, for infirmary sites at other frontier military posts of this era.

Certain artifacts such as medicine bottles and surgical instruments may not be found in anything approaching the frequency one might expect at such a site. In the case of the medicine bottles, shipping medicines in bulk would have been the most economical and sensible method for supplying the post, and small medicine bottles would therefore be constantly refilled and reused. The difficulty of obtaining such items meant that they were used and recycled carefully, precluding large numbers of such items turning up in the archaeological record. Sanitary practices and methods of refuse disposal may also have had a "cleansing" effect on infirmary sites. This cleansing may be due to the primitive understanding of disease at the time, so that conscientious physicians may have directed that all disposable items which had come into close proximity to patients were to be carefully disposed of away from the infirmary to prevent the spread of disease. The artifact assemblage from the Fort Hoskins infirmary, and the lack of material culture associated with the daily operations at the infirmary at Fort Hoskins, suggest that disposal off-site of broken or worn-out items was standard procedure. Documentary sources indicate that surgical instruments were highly prized and well cared for. The Medical

Department kept such close track of sets of the medical instruments they provided to post surgeons that the chance of these items being carelessly broken or lost, to later appear in the archaeological record, is fairly small.

One conclusion which may be applicable to other sites is that the archaeological assemblage from a given area may not immediately indicate that the post infirmary was located on that place, and documentary sources may be needed to validate its location. One possible indicator of the location of an infirmary may be the presence of green bottle glass spread throughout the immediate area of the infirmary, but present only in the privies across the rest of the post.

Suggestions for Further Research

Regarding the potential of further of historical research in this area, it would be of great benefit to compare the findings of this study on the health and illness of the soldiers at Fort Hoskins to other frontier military posts. Documentary sources indicate that Fort Hoskins was in most ways typical of the many small frontier posts of this era. The soldiers health problems faced by the physicians who served at the post were common manifestations of the realities of frontier life, realities which would generally have been important forces for shaping the life and health of soldiers throughout the frontier. The medical data from Fort Hoskins is in and of itself an instructive tool for analyzing the life of the soldiers, but would be enhanced by a comparison of similar data from other posts.

Archaeologically, the conclusions made in this thesis regarding the infrequency of medical specific artifacts in the archaeological assemblage from Fort Hoskins suggest several avenues of further study. First, more excavation at the infirmary site at Fort Hoskins is needed to validate the initial conclusions made regarding the disposal of hospital refuse. If surgeons at the post were as careful about these items as initial

investigations suggest, then there must be a privy or refuse dump associated with the infirmary where these items were disposed of. Locating this assemblage would not only validate the "careful disposal" hypothesis, but would also tell us a great deal about the types of medicines used and possibly reveal subtleties regarding medical practice at the post which are not possible to discover through documentary sources alone.

Second, careful research and excavation at other frontier military infirmaries is needed to compare with the findings at Fort Hoskins. Many similar posts have been dug, but very little pertaining to the infirmaries of these forts has been written. Determining similarities or differences between infirmaries at these posts across the frontier would add an important chapter to the overall history of this period of time. Documentary sources indicate that military medical practice and procedure was generally typical and standardized throughout the frontier, but these conclusions need to be validated by further research and excavation.

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