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Boots Made for Walking: Two Late Nineteenth Century Burials from Walters Ferry, Idaho

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Abstract

Though there are many historical accounts of travel along the Oregon Trail toward the Pacific Northwest with a scattering of marked and clandestine graves along the way and reports from mining towns near trail destinations, very little bioarchaeological evidence of life along these trails and in western mining towns exist. Two skeletons were salvaged from Walters Ferry along the Snake River in southwest Idaho. This report re-examines osteological and archaeological remains from the site and uses bioarchaeological analysis combined with historic documentation. Results reveal that these remains were of two adult Euroamerican women interred between December 1888 and March 1889. Skeletal indicators of health reflects a harsh lifestyle resulting in workload-related bony growths and infection. These remains provide a unique glimpse at life, death, and the roles of women along the Boise-San Francisco Stage Route in late nineteenth century Idaho.

KEYWORDS: Bioarchaeology, Oregon Trail, mining, pioneer women, burial, stage routes

Introduction

Human skeletal remains from two shallow graves were found near the heavily-burrowed crest of a sand dune along the Snake River near Walters Ferry (10CN140), Idaho in 2006. Cooperative investigation by the Archaeological Survey of Idaho and Canyon County Sheriff's Department under the terms of Chapter 5 of the Idaho Code "Protection of Graves" Act of 1984 resulted in the salvage excavation of two unmarked primary burials.

In 2008, the remains were first analyzed and curated at the University of Idaho for the Western Repository for the Archaeological Survey of Idaho. Presentations at regional meetings were made, yet no formal report was written (Derbidge and Harrod 2008). The remains were subsequently transferred to Boise State University and in August, 2015 the

Department of Anthropology was contacted by the Archaeological Survey of Idaho's Western Repository for a comprehensive analysis and report. At that time, the skeletons were cataloged as F101608-A and -B (hereafter referred to as Burials A and B).

There are relatively few bioarchaeological investigations focusing on historical burials in the Pacific Northwest (Connelly 2010; Loflin and Weathermon 2013; Rogstad 2015; Weathermon 2001, 2008). There are even fewer accounts from bioarchaeological accounts of lifestyle and disease within mining settlements (e.g. Meyer and Steyn 2015; Ramaroli et al. 2010) or along stage or wagon routes in which to compare this sample. Most accounts of hardships in the American frontier are from diaries, letters, and news reports. Among all travelers along the Oregon Trail, deaths are estimated to be about 65,000, averaging about 10 graves per mile in the 2,000 mile stretch, yet less than 100 are archaeologically known (Mattes 1987; Weathermon 2008). This report re-analyzes the skeletal and mortuary remains recovered from Walters Ferry and aims to 1) correct initial misinterpretations from the earlier analysis, and 2) give a contextual, bioarchaeological glimpse of what life was like along the stage coach routes and between the mining towns in late nineteenth century southern Idaho.

Walters Ferry

Walters Ferry (10CN140) is in southernmost Canyon County, 17 miles south of Nampa, in the southwestern corner of Idaho above of the Snake River and Highway 45. The region consists of sand dunes along river banks with the Owyhee Mountains in the west (Figure 1). The dunes are home to large populations of bank swallows (*Riparia riparia*). The male swallows peck out burrows in the dunes up to five feet deep for females to nest. There may be as many as 2,000 birds in a single colony, so the burrowing activity alone is especially detrimental to the stability of the sand dunes (Taylor 1989). The sand dunes have also been quarried for highway projects for many decades. The combined impacts of mining and quarrying resulted in the accidental exposure of two undocumented burials, discovered teetering on the rim of a sandy cliff.

Many of the ferries and trails in this area of the Northwest were completed and used long after the completion of the transcontinental railroad in 1869, when most westward trails fell into disuse. Based on diaries and other accounts, segments of trails were still used into the first decades of the twentieth century (Weathermon 2001). From 1863 to 1921, near the wane of the trail era, Walters Ferry served as an important link in the Boise-San Francisco stage route. At a time when crossing rivers was one of the most significant dangers of pioneering families, ferries supplemented natural fords and prevented drownings and financial loss from overturned coaches and wagons. Walters Ferry is historically significant as it was one of the most direct routes between the Boise Basin, Fort Boise, and the Owyhee mining camps to the south, and more distant destinations in Nevada and California (Durning 1996; Huntley 1979). Travel surged when silver mining in Idaho peaked in the 1860s and prospectors began to settle in the Treasure Valley and Boise Basin (Durning 1996). In 1863, after the discovery of gold in the Owyhee Mountains, Major Pinckney Lugenbeel at nearby Fort Boise ordered soldiers to secure the landing that would later become the ferry. That same year John Fruit and George Blakenbecker purchased a one-year license for $100 to establish and run what would be known as Snake Ferry, later Walters Ferry (Jones 1982).

Ownership continued to change hands. In 1874, Perry Munday established a public house and eatery adjacent to the river bank. At that time the ferry was known as Munday's Ferry (Jones 1982). Despite the General Mining Act of 1872, prospecting in the region began to slacken (Durning 1996), and many instances of violent interactions with Native Americans

were reported. Munday soon sold the ferry. In 1879, at the behest of his wife and "trouble about the Indians," he settled for half what he had paid for it. At one point Munday had advertised his willingness to accept a few head of cattle to get the property off his hands (Jones 1982). The next partnership ended with the death of the partners, after which Lewellyn R. Walter bought the ferry and properties for $4000. In 1888, he established a post office there (Huntley 1979). Walter owned the ferry until 1901, when he sold it to his tenant, but not before enhancing the business by replacing the ferry with the "Great Easterner," a 70 x 16-foot ferry barge. By this time, gold and silver had been discovered along the Coeur d'Alene River, drawing the mining rush far to the north of Walters Ferry. Finally, Edwin Meek owned and operated the ferry until 1921, when a bridge was built over the Snake near the ferry, which then lost nearly all of its use (Jones 1982). Today a boat ramp sits on the site of the ferry and is maintained by the Idaho Department of Fish and Game as a sportsman's access.

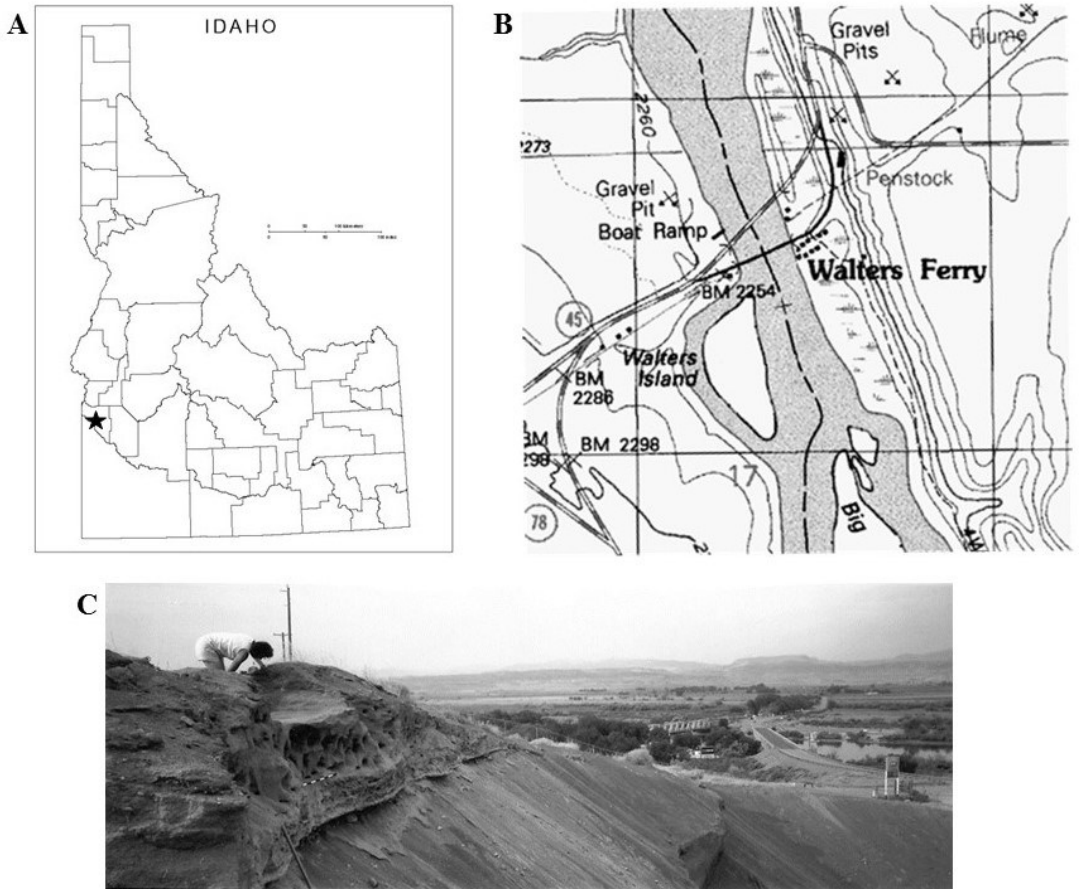

Figure 1. A) Map of location of site within Idaho; B) Location of site along Snake River; and C) Photograph of excavation on top of sand dune cliffs (note the channeled nests of the Bank Swallows.

Osteobiography

The recovered human remains consist of two fairly well-preserved individuals. Both burials had been interred in wooden coffins and lay in extended and supine positions (Figure 2).

Sediments were wind-accumulated sands. Post-depositional erosion and fractures to some of the remains may reflect the shallowness of the graves. The bodies were positioned with the crania facing the cliff to the south. The coffins were parallel to one another, oriented north-to-south and less than two meters apart. The eastern coffin was encountered 80 cm below the surface, while the western coffin was 40 cm deeper. Given the ease of excavation in these sands, we doubt if these differences in depth have much chronological significance. In both cases, the northern ends of the coffins had been breached and burrowed by bank swallows. Destabilization caused by this highly colonial species was more destructive of the graves than mechanical quarrying. Cranial elements had eroded out from the coffins and tumbled down the face of the quarry pit. In 2006, isolated bones found at the bottom of the sand dune were initially thought to belong to Burial A. These included three cervical vertebrae and a mandible and maxilla, which seemed to align with one another. However, upon reexamination at the Boise State University laboratory, cranial remains were absent from the collection. No explanation could be found for the missing cranial fragments, but it appears they were never received by Boise State prior to the current analysis. From descriptions in the initial reports, these very fragmentary cranial remains would not have altered our reporting here. The initial analysis reports that overall the two burials and loose remains yielded 325 identifiable bones, two teeth, and 83.6 g of bone fragments, and presents demographic results dissimilar from the current analysis, ignoring the pathologies (Derbidge and Harrod 2008).

Figure 2. Coffin of Burial B. Note that half of the coffin has eroded out of the sand dune and fallen.

One goal of this analysis was to estimate ancestry of the remains in order to determine the applicability of potential NAGPRA repatriation. Though cranial analysis would be the most accurate means to assess ancestry, in their absence two other analytical procedures were pursued. First, the mortuary practices and burial goods were compared to other data sets from the region. Work along the lower Snake River (Rodeffer 1973) and in the neighboring northwestern plains (Sprague 1967) has shown that by the mid-nineteenth century, Native American burials began to resemble those of Euro-Americans in positioning and in the use of coffins or boxes. To resolve the ethnic/racial origin of the burials, grave goods associated with the remains were evaluated. Burials artifacts (discussed below) were limited to clothing-related items with few personal objects. This is more consistent with burials of individuals of Euro-American descent than nineteenth century Native Americans (Derbidge and Harrod 2008; Weathermon 2001).

Second, femoral neck axis length (FNAL) was assessed as an alternative to observing cranial morphology in order to classify ancestry. The method is relatively new, but has correctly classified up to 86 percent of femurs by known ancestry (Christensen et al. 2014; Meeusen et al. 2015). This measurement was taken between the axis of the neck and long axis of the shaft. The angle of this measurement was originally used in determining the proper medical treatment for hip fractures, since there are substantial differences in fracture occurrences between populations, perhaps due to bone density or geometry differences (Christensen et al. 2014). In summary, both individuals were consistent with European ancestry.

Sex, age, stature, and body mass estimates of Burials A (Figure 3) and B (Figure 4) followed slightly different methods due to the differences in their completeness. For Burial A, which was mostly complete, sex was estimated using nonmetric traits of the pelvis (Krogman 1962; Phenice 1969). The pelvis was wide, with a wide sciatic notch, an oval outlet, and concave subpubic concavity, consistent with a female. However, postcranial metric analysis indicated ambiguous sex. Since the results of standardized methods were unclear, discriminant function analysis of the calcaneus (Introna 1997) were also included, indicating that this individual was a female. Next, age was estimated from epiphyseal fusion (Buikstra

Figure 3. A) Excavated photograph of Burial A in situ; and B) Anatomical reconstruction of Burial A remains.

and Ubelaker 1994), sternal rib ends (Iscan 1985), and the surfaces of the auricular (Lovejoy et al. 1985) and pubic symphysis (Brooks and Suchey 1990). Summary of these multiple traits established the most accurate age range of 39-58.6 years. Finally, for Burial A, body mass was estimated from femoral head breadth (Auerbach and Ruff 2004; Ruff et al. 2012) and stature using the upper and lower limbs (Ruff et al. 2012) and Raxter et al.'s (2006) revision of Fully's anatomical method of combining those with the vertebral heights. Combining the results, stature ranged from 162.56-170.18 cm tall and mass of about 48.98 kg.

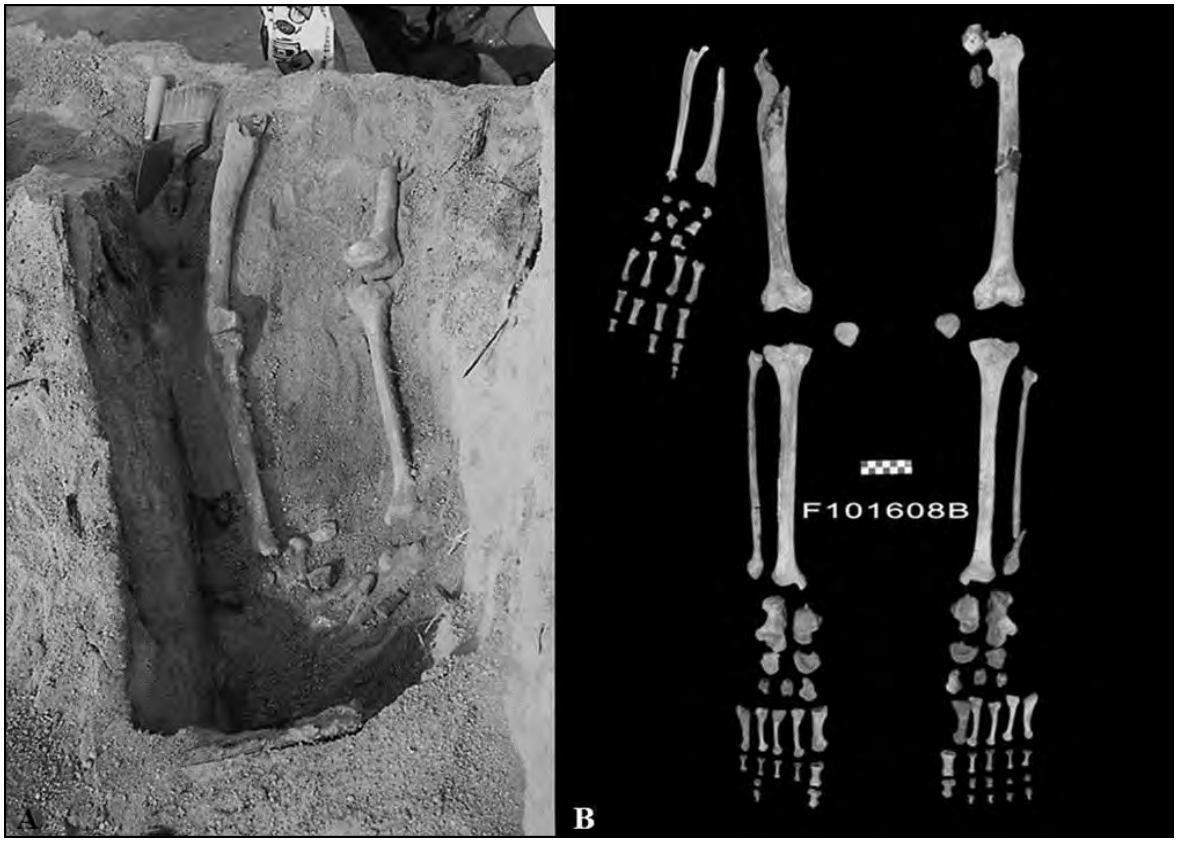

Figure 4. A) Excavated photograph of Burial B in situ; and B) Anatomical reconstruction of Burial B remains.

Burial B was much less complete, with only the right forearm and hand, and the right and left legs and feet recovered. Due to poor preservation, sex was estimated from femoral head breadth (Milner and Boldsen 2012) and FNAL (Christensen et al. 2014; Meeusen et al. 2015). Both methods gave results consistent with a female. Age could only be estimated broadly from epiphyseal fusion (Buikstra and Ubelaker 1994) to be over 30 years. Stature was estimated from tibial length (Ruff et al. 2012) to range from 154.94-162.56 cm and body mass estimated from femoral head breadth (Auerbach and Ruff 2004; Ruff et al. 2012) and the proximal dorsoplantar and distal mediolateral diameters of the first metatarsals of both feet (De Groote and Humphrey 2011) was approximately 47.17-63.50 kg.

Skeletal Pathology

Both skeletons were examined to assess macroscopic signs of disease and trauma (Aufderheide and Rodriguez-Martin 1998; Ortner 2003). As in all bioarchaeological analyses of skeletal disease, it is important to recognize the Osteological Paradox to make interpretations (Cohen et al. 1994; Goodman 1993; Wood et al. 1992). First, most diseases do not impact bone, and those that do exist for some time in tissues other than the skeletal. Second, lesions observed in the skeleton as signs of disease or trauma are usually normal physiological and immunological reactions that only occur when a body is healthy enough to accommodate them. In short, skeletons without lesions are not necessarily bodies free of disease and trauma. Many people die before their diseases register in their bones. We will never know the full scope of disease in any population.

Burial A had minimal abnormal bony lesions, and one incidence of bony trauma (Table 1). The sternal end of the fourth, left rib showed evidence of cartilage ossification. This reaction had completed healing at the time of death and therefore is consistent with an antemortem (occurring prior to death) rib fracture at the sternal end. After the injury, the bone strengthened itself by fusing to the sternum rather than remaining attached via flexible cartilage.

Burial A also showed evidence of Schmorl's nodes in the lower thoracic and lumbar vertebrae (Figure 5). These nodes present as depressions on either or both the superior or inferior aspect of vertebral bodies. They are the result of protrusion of the softer intervertebral tissues into the bony tissue (Aufderheide and Rodriguez-Martin 1998; Ortner 2003). Aetiologically, Schmorl's nodes have commonly been associated with stress-related trauma, but can also be present due to metabolic diseases or represent developmental defects. Some individuals may also have genetic predisposition toward node development (Aufderheide and Rodriguez-Martin 1998; Ortner 2003; Williams et al. 2007). Clinical reports indicate that individuals with these lesions can present either as asymptomatic or with chronic pain, depending on their location and association with stress fractures (Resnick and Niyawama 1978; Wagner et al. 2000). These bony lesions become more common with age. While we cannot know the specific symptoms this woman had, the lesions indicate that she

Figure 5. Pathologies from individual A. A) Fourth, right rib with antemortum fracture and ossification at sternal end (arrow); and B) Lumbar vertebrae with Schmorl's node (arrow).

did exert her lower back.

Burial B exhibited signs of more extensive bony disease even though there were fewer remains to analyze (Table 1). The skeleton displayed bilateral osteophytes of the talus and navicular in the ankle and foot. Osteophytes, commonly referred to as bone spurs, are bony projections resulting from degeneration and/or inflammation that can cause pain and limit mobility (Aufderheide and Rodriguez-Martin 1998; Ortner 2003). Together with the inactive, healed (antemortem) infection which caused a lytic reaction in her left calcaneus, possibly the result of planta fasciitis, osteophytes suggest she was often on her feet, and perhaps even longer in the saddle, as these injuries are common among equestrians. The distal hallux of both feet had inferior lytic lesions and oteophytes (Figure 6). Such lesions have been identified as resulting from fractures, infections, diabetes, tuberculosis, and cancer. Since there are no other indications of tuberculosis or cancer in the skeleton to indicate them as causative. We suspect that a crushing injury may have resulted in ankylosis of the intermediate and distal phalanges of the left foot. This foot also exhibited osteophytes, known as Heberden's and Bouchard's nodes, likely the result of antemortem fracture and/or osteoarthritis, although diabetes cannot be ruled out (Alexander 1999; Auferderheide and Rodriquez-Martin 1998; Ortner 2003).

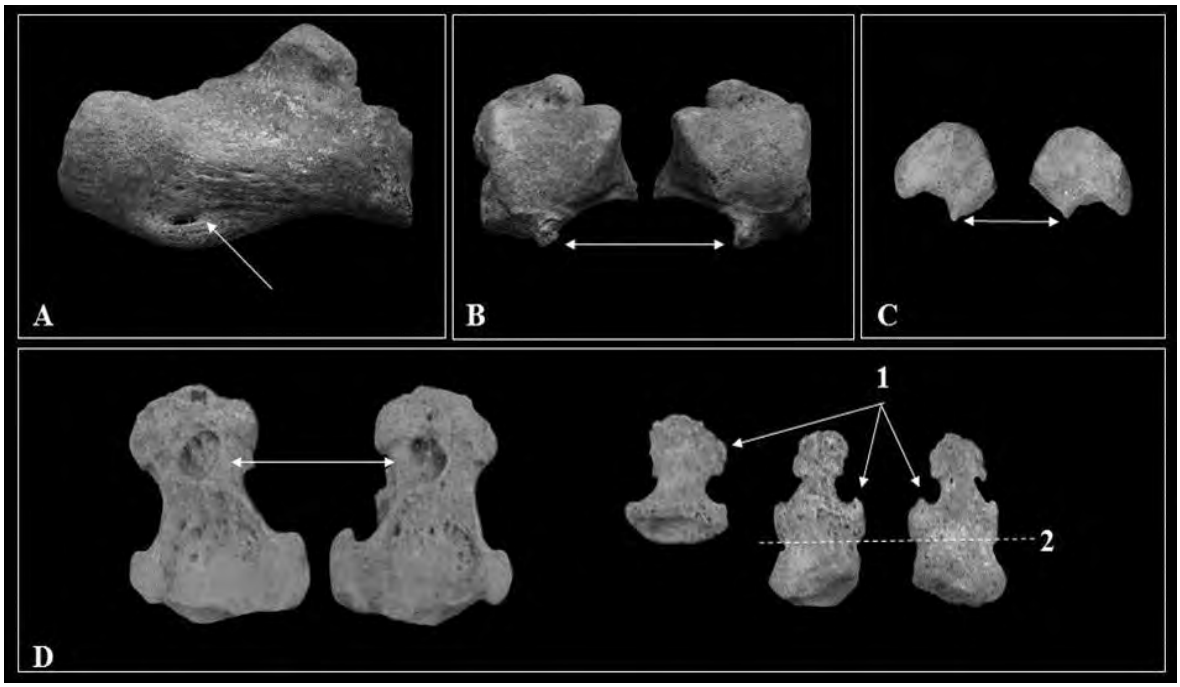

Figure 6. Pathologies from Burial B. A) Lytic response on calculus heal; B) Osteophytes on posterior left and right talus; C) Osteophytes on left and right navicular; D) Image to left are the left and right hallux with lytic response indicated by arrow and image to the right are the foot phalanges. 1 indicates osteophyte formation and 2 indicates the area of ankylosing of the intermediate and distal phalanges.

Most significantly, perimortem infection (active/occurring near the time of death) occurred in her right femur. Though the head of the femur is missing postmortem, probably due to its fragile diseased condition, the postero-proximal end to the mid-shaft of her femur exhibited periostitis (referring to general active bone lesions), cloaca on the greater trochanter, an inflamed and bulging appearance of the anterior shaft, dense trabecular bone in the medullary cavity and a necrotic bony tissue inferior to the cloaca. These lesions are

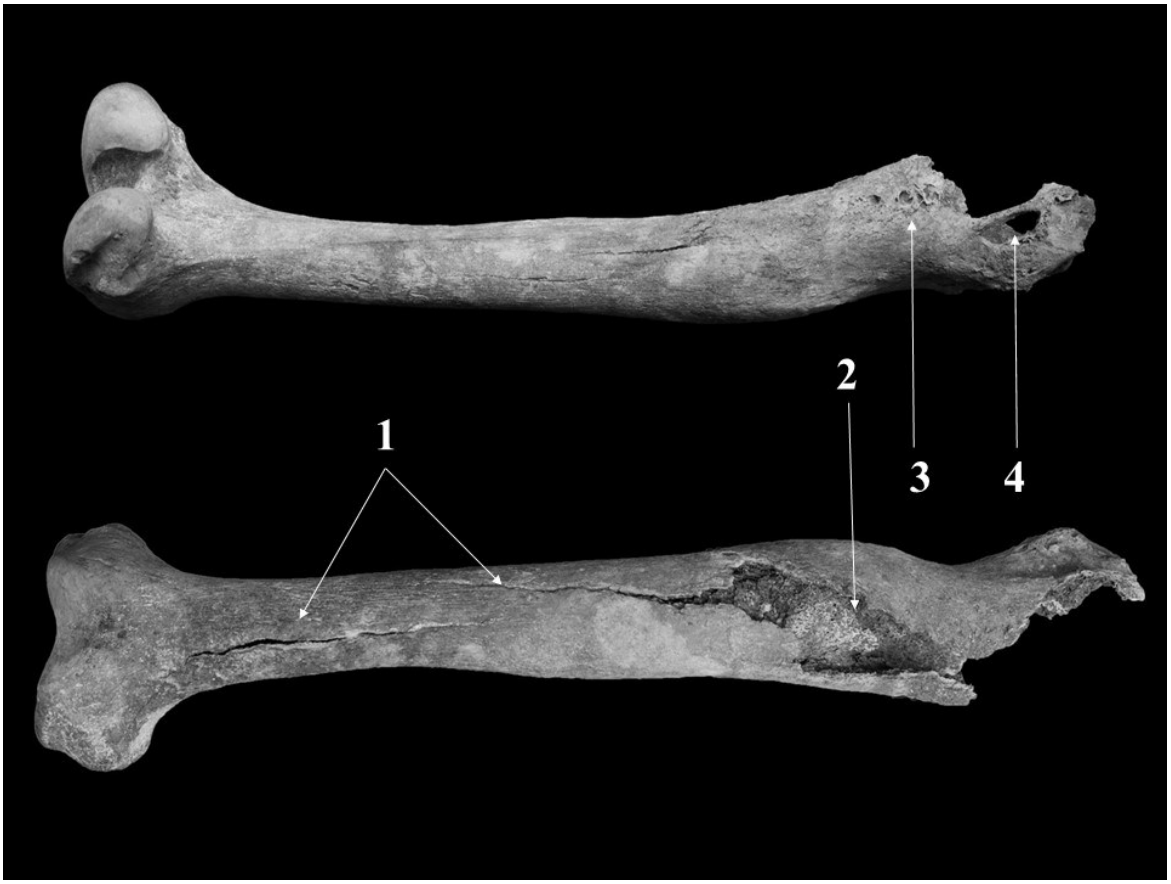

Figure 7. 1) Anterior (bottom image) and postero-lateral (top image) views of the right femur from Burial B depicting perimortem osteomyelitis morphology (numbers 2-4) and postmortem fracturing of the shaft; 2) Dense trabecular sequestrum; 3) Active involucrum (periostitis) involvement inferior to greater trochanter; and 4) Cloaca on the greater trochanter.

consistent with acute and chronic osteomyelitis (Figure 7). Diagnostic evidence of osteomyelitis is the presence of a canal (cloaca) through which the body can drain and dislodge the infected fluids and necrotic bone (sequestrum) along with periosteal bone formation or involucrum (Aufderheide and Rodriguez-Martin 1998; Ortner 2003). Osteomyelitis results from the introduction of pyogenic bacteria into bone. The infectious vector may reach bone directly through open wounds, indirectly through contact with adjacent infected tissues, or through a hematogenous route via sepsis. Generally, infection resulting from trauma is localized and can often become chronic, while hematogenous infection presents in more than one location and is most common in the ribs, vertebrae, and tibia (Aufderheide and Rodriguez-Martin 1998; Ortner 2003).

Her infection would have been seeping and painful and open to further infections, but there is no sign either of treatment, or inhibited mobility (Aufderheide and Rodriguez-Martin 1998; Ortner 2003). Nevertheless, walking must surely have been painful. Though the femoral head is missing, the infective reaction appears to originate at the neck or trochanters of the bone. This is consistent with a traumatic injury (minor or major), active at the time of death, and perhaps contributing to her death. Given the location of the osteomyelitis and possible traumatic cause of her other pathologies, the osteomyelitis infection is probably subsequent to either an open fracture or septic trochanteric bursitis. Also, known as greater

trochanteric pain syndrome (GTPS), because the disease involves more than the femoral bursa tissue, trochanteric bursitis is caused by acute or repetitive trauma, such as running, direct impact, and horse riding to the soft tissue surrounding the femoral head and trochanters. In life, GTPS presents as a lateral pain in the thigh with swelling, fever, and reduced flexion of the leg. It occurs in 1.8 individual per 1000 today, and has a higher frequency in women than men (Strauss et al. 2010; Williams and Cohen 2009).

TABLE 1. Osteobiographical and Pathological Data from each Burial

Burial	*Ancestry*	*Sex*	*Age (years)*	*Stature (cm)*	*Mass (kg)*	*Pathology*	*Timing*
A	European	Female	39-58.6	162.56-170.18	48.98	Fracture, 4th rib (sternal end)	Antemortem
						Schmorl's noded	Antemortem
B	European	Female	30+	154.94-162.56	47.17 - 63.50	Osteophytes on Navicular	Antemortem
						Osteophytes on Talus	Antemortem
						Lytic reaction on calcaneus	Antemortem
						Ankylosing and osteophytes on foot phalanges	Antemortem
						Osteomyelitis of right femur, possibly secondary	Perimortem

Mortuary Goods

As mentioned above, the preserved artifacts for both burials were limited primarily to clothing items within the coffins. A full listing of the mortuary goods is listed in Table 2. The coffins themselves were rectangular with lids and completely encased the bodies. Samples of the coffin wood of both burials were sent for microscopic analyses at the University of Ohio. The coffin of Burial A is consistent with *Pinus strobus*, while that of Burial B is a cedar wood, most likely a *Juniperus* species. Both woods appear to be the eastern North American species of the genera. Burial B has evidence of inactive insect burrows and brown rot that has softened and darkened the wood (Paul Patton, personal communication 2017). At least some of the external surface of the coffin is painted with an unidentified red pigment, underlying quartz-heavy sand encrustations.

The coffin panels were held together with cut nails and wood screws (with flat, slotted heads), 10 rusted fragments of which were recovered. Coffin manufacture in the nineteenth

century intermountain west was often improvisational. Coffins were sold at trading posts or carpentered from salvaged wagon parts or furniture, which may explain the eastern origins of the wood species in this case (Hafen and Hafen 1961). Often the dead were merely wrapped in a blanket or canvas without a wooden box and some bodies were only partially buried (Hafen and Hafen 1961).

Copper rivets and iron loops for pants, synthetic flat buttons for a shirt, and shank buttons for a coat were recovered from Burial A (Figure 8). Among these was a single, 1 cm diameter, plastic button that stood apart and a white four-hole China button with a pink stippled pattern of diagonal crossing lines. Also, left with her body was a fragmented strand of red cotton ribbon about 15 cm in length (though the material has not been identified). Her most prominent possessions were leather mid-calf boots containing the bones of her feet inside gray woolen socks (Figure 9). The boots were 22.5 cm in length, equivalent to a U.S. size six boot. These boots were first thought to be men's, but the soles of both were decorated with inclusions or small tacks made of oxidized copper and an unidentified white material in a floral–like pattern suggestive of Victorian femininity.

Mortuary goods associated with Burial B were limited to a white wool textile made with copper rivets, which appeared to be from a pants pocket, and an identical white and pink stipple-patterned button to that found in Burial A. Whether this button indicates a relationship between these women is unknown. Other evidence of clothing or ornaments that

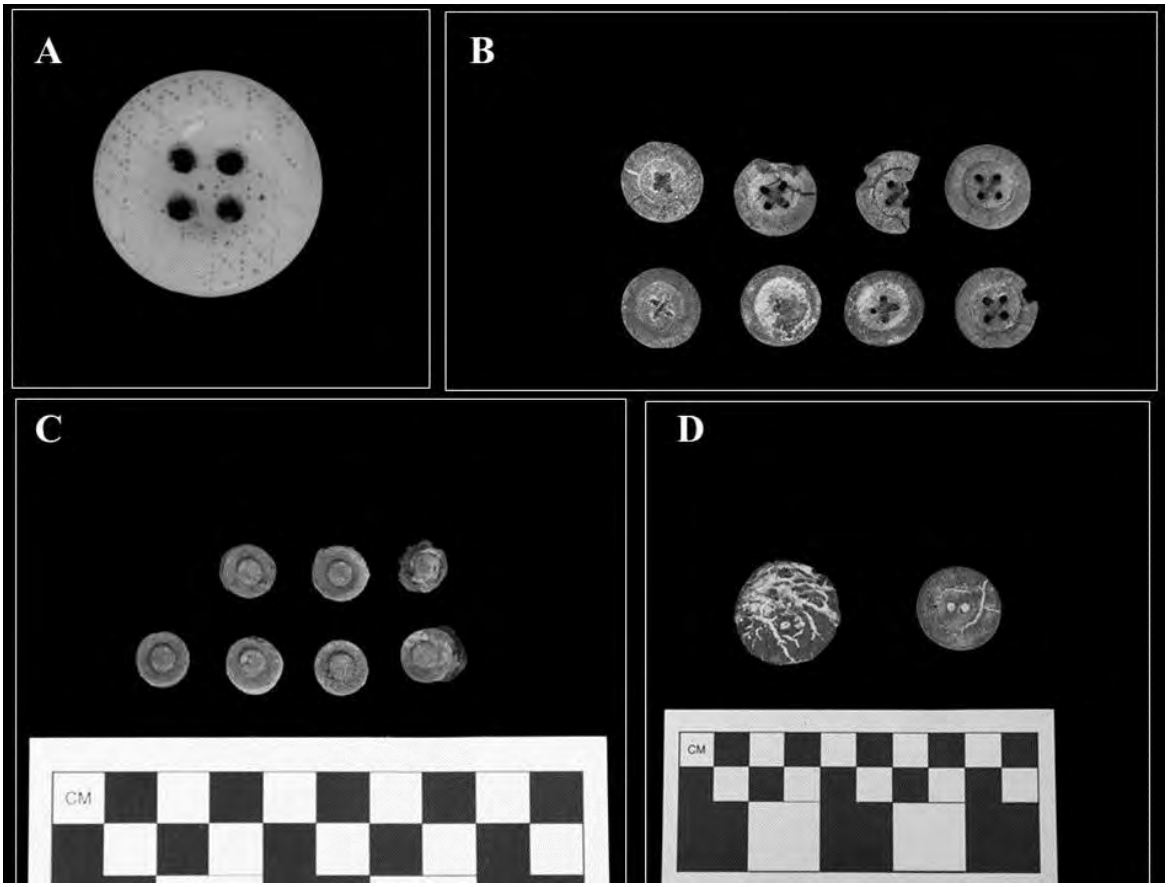

Figure 8. Buttons and rivets from Burial A. A) Enlarged image of the pink stipple-patterned, four-hole China button. The identical artifact is also found with Burial B; B) four-hole, flat ink-well buttons; C) copper rivets from denim jeans; and D) black shank buttons.

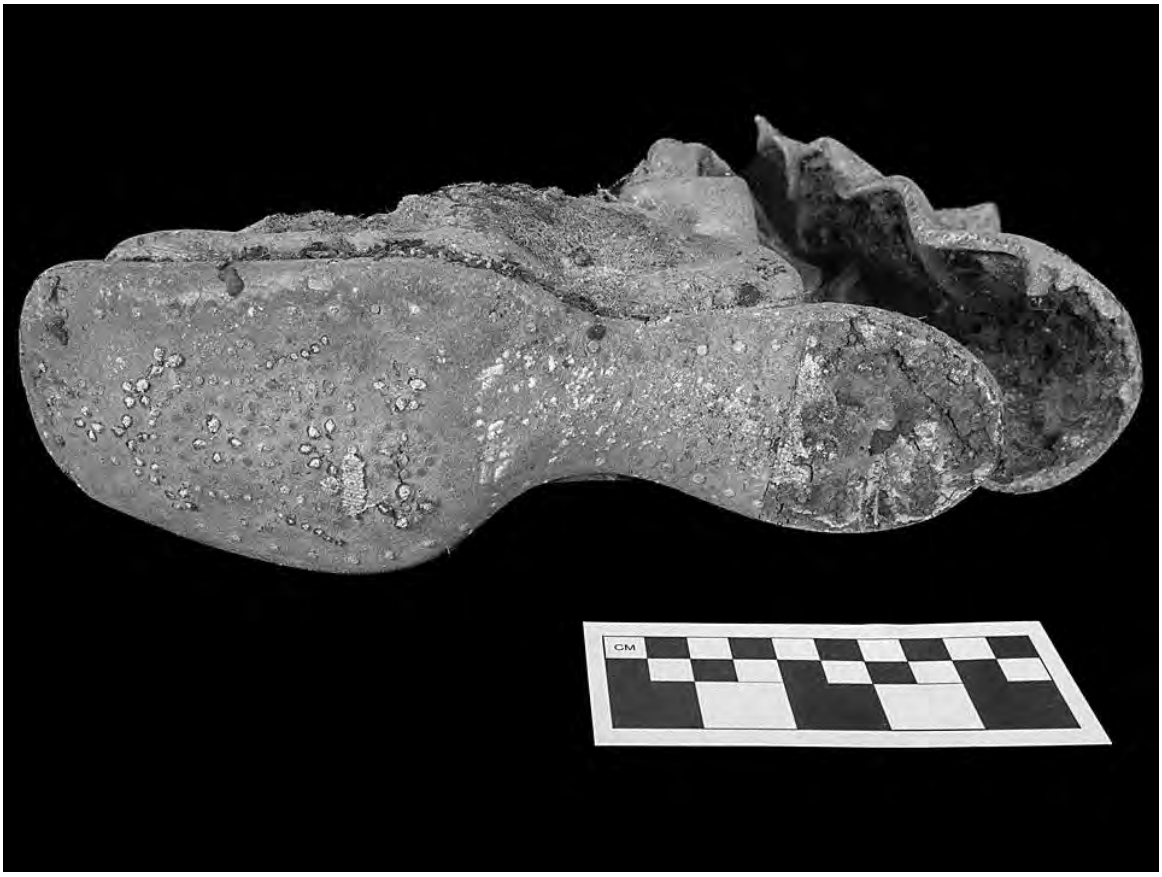

Figure 9. Sole of the left leather boot from Burial A. Note the pattern of rivets/inclusions.

were placed in the coffin came from bone staining. Though both skeletons exhibited multiple stain colors, Burial B exhibited obvious green copper staining on her right distal forearm and wrist, perhaps from decomposed buttons or jewelry.

The most valuable artifact in narrowing down the timeline in which these women died and were interred were fragments of a newspaper clipping. This was found below the left clavicle of Burial A, in an area suggestive of a shirt pocket (Figure 10). The fragments were lightly cleaned, digitally photographed, and reconstructed in a montage using a raster graphics editor. Keywords and phrases from the clippings were then searched in digital archival collections.

All text in the newspaper clippings were associated with different published editions of the *San Francisco Chronicle*, though not organized as they were in the *San Francisco Chronicle* itself. None of the articles were published earlier than December 25, 1888. On one side, columns dating to December 20-24, 1888, addressed subjects like leadership changes in post offices around the Northwest, to contested land surveys and Idaho Land District claims, and results of United Stated Versus Oregon and Washington Territory Railroad Company regarding use of timber in the region to build the railroad. In the later section, Secretary of Interior William Villas was mentioned. Villas served from 1888-1889, further confirming the dates represented by the paper. On the opposite side of the fragments, a columnist described in some detail, the natural history and art collection at the Palais Longchap, Marseille, France. The columnist later mentioned an 'unnamed' San Francisco millionaire (most likely Michael H. de Young, the co-founder of the San Francisco Chronicle who would later found the de Young Museum in 1895), and recommended he include scale models (like those the

columnists saw in Marseille) as part of his exhibits. Though the newspaper clipping may clarify the year and season in which Burial A most likely died, it is not exactly clear where either originated or what their intentions in the area were; to stake land claims, become a postmistress, or simply interest in visiting France.

TABLE 2. Description and Count of Mortuary Goods by Provenience.

Provenience	*Object Type*	*Raw Material*	*No.*	*Description*
Burial A	Bottle Shard	Glass	2	Brown glass
	Cloth	Cotton	2	
	Cloth	Leather	7	
	Cloth	Wool	1	
	China Button	Plastic	8	
	China Button	Plastic	1	
	China Button	Plastic	1	Large white
	China Button	Plastic	4	Medium white
	China Button	Plastic	1	White/pink pattern
	Ribbon	Unknown	1	Red
	Rivet	Copper	7	
	Rivet/Leather	Copper/Leather	1	
	Shank Button	Synthetic	2	Jacket button
	Shell	Calcium Carbonate	1	White (bivalve mollusk)
	Twine	Hemp	1	
Burial B	Cloth	Unknown	1	
	China Button	Plastic	1	White/pink pattern
	Rivet/Cloth	Denim/Copper	1	Clothing (pant pocket)
	Cloth	Unknown	1	
Unknown	Bottle Shard	Glass	2	Brown glass
	Rivet	Copper	1	
	Shard	Glass	1	Frosted glass

It is likely that both women died and were interred around December 25, 1889 and before March 6, 1889. Since the paper is from Burial A, both the burials seem likely to have been dug at the same time given their close proximity and exact alignment. Here, wider comparisons are helpful. Thus, diary entries from Abigail Roelosfson near Box Elder, Wyoming talk of her mother's sudden death of cholera and burial beside a fresh grave of an unknown woman (Holmes et al. 1997; Rogstad 2015). It was certainly not unheard of to bury

unrelated individuals beside one another. This date range is significant because it coincides with the winter of 1888-1889 which was one of the region's coldest on record with an average temperature of 31.9 degrees (United States Signal Service 1888). This might have encouraged digging graves in the sand dunes preferable to digging through frozen clays and silts along the river plain. Detailed analysis of the composition of plastic used in the buttons may alter the date. If they are celluloid which was in production by the 1870s then the date will hold, however if they are Bakelite, which was not developed until 1907 (Davis 1946), the newsprint may have served as a sort of nostalgic grave good.

Discussion

Osteological analysis of pioneer era skeletal remains is scanty. Analysis of Euroamerican women before the closing of the frontier are especially scarce (Scheiber and Gill 1997). Much of the available evidence for women is restricted to dental caries rather than the postcranial skeleton. Historic accounts tell of emigrant injuries and deaths from cholera, flu, measles, smallpox, diarrhea, mountain fever, mumps, tuberculosis, snakebites, mechanical accidents, drowning, exposure, starvation, fires, explosions, violent attacks, and suicide (Holmes et al. 1997; Rieck 1991). The few skeletal reports that exist offer a dark picture of the life and health of the pioneers. Particularly, work by Rick Weathermon (2001, 2008; Loflin and Weathermon 2013) on pioneer skeletons and cemeteries from Wyoming is especially revealing. A man in his thirties interred at Fort Casper, Wyoming exhibited Schmorl's nodes, ankylosing of the toes, perimortem Parry's fracture, and perimortem blunt force trauma to the face and a possible .44/.45 caliber gunshot wound to the head. Weathermon (2001) identified the individual as a previously unaccounted for soldier from the 11th Kansas Volunteer Calvary. Two Euroamerican individuals, one of which was a child under 16 months old, were recovered from the banks of the Green River in Sweetwater County, Wyoming. The young male had several antemortem pathologies including among other things hyperostosis, cribra orbitalia (both associated with malnutrition and anemia), and fractures of the sacrum, humerus, and ulna (Loflin and Weathermon 2013). A family plot in western Oregon, used from 1854 to 1879, revealed the reality of a frontier settlement, as seven of the burials were of children (six of which were under the age of five) all interred in coffins, lacking decorative elements, and with

Figure 10. Reconstructed front side of the newspaper clipping

similar clothing goods to those at Walters Ferry (Connolly 2010).

In another example reported in a local newspaper (Rogstad 2015), Weathermon excavated three burials (two women and an adolescent boy) that lay next to each other near Glendo, Wyoming dating between the 1850s and sixties. These individuals had some skeletal attributes of Native Americans, but their mortuary goods were European. Weathermon states in an interview that from this site and others, like the Box Elder Cemetery, he believes that pioneers were selective about burial site scenery and preferred not to leave their dead in isolation. It was also common to plant vegetation near graves either as a symbol of remembrance and to make relocation of the grave easier. The bodies of these three were laid in the ground without coffins, but one was wrapped in buffalo hide and feathers and all were covered with wooden lids. One woman, estimated to be in her forties, showed evidence of having many difficult births, one of which required symphysiology surgery (the practice of sawing the pubes apart during obstructed birth).

Bioarchaeological analyses of these two women allows a unique glimpse of women during the pioneer emigration and the mining rush. In 1888, though some women certainly maintained traditional roles, others took part in mining and other frontier businesses in Idaho and throughout the pioneer west (Binheim and Elvin 1928; Scharff 2003; Scharff et al. 2015). Many women assisted their husbands and fathers during the gold and silver rushes in California, Colorado, Idaho, and even Alaska. There is much documentation of women who owned and supervised their own mines and mining companies too (Binheim and Elvin 1928). Mrs. E.C. Atwood, for example, the vice president of Banacord Mining and Milling Company, asserted that mining would, "be made to pay by an energetic woman who will pursue it in an intelligent way" (Mining and Scientific Press 1900:771). Fed up with traditional female labor at the mining camps, she studied geology and surveying on her own. Many other companies were also run by women during this time. In fact, a small population of women in nearby Silver City, Idaho, were documented as behaving like male cowboys and wearing men's clothing, similar to the clothing found with these women (*The American Journal Examiner* 1904; Mackell and Noel 2009). Pathology incidences from a skeletal collection of early 20th century Chinese indentured miners in South Africa (Meyers and Steyn 2016) showed that high frequency of injuries associated with mining accidents were fractures of the limbs and cranium and Schmorl's nodes of the vertebrae. This pattern may be similar in the Northwest for both Chinese and European miners, but future analyses would be needed.

In addition to working in mining, women also owned and labored in other businesses like printing shops, brothels, flour mills, hotels, brick kilns, as well as professionals in law, medicine, and labor unions. While the nation did not accept women's suffrage for another 24 years, Idaho, yet to be a state, embraced it (Scharff 2003).

Though the region was most successful in attracting travelers due to the gold and silver rushes, many mining disputes and riots were occurring in Idaho during the 1890s. The price of silver dropped, many mines closed, and miners were lost their income. Toll costs for Walters Ferry decreased with every owner, reflecting the appearance of new ferries along the Snake River and decline of the silver rush in the region (Jones 1982). In Wallace, Idaho, several mines were destroyed in sabotaged explosions, leading to military intervention imprisonment of many miners in Ada County Jail (Lukas 1997). It seems less likely then, that these two women were in the region to claim some fresh mines or pan the rivers in 1888 riotous climate. Rather, they may have lived in the Boise Basin or simply have intended on ferrying over the Snake River for other pursuits like many others.

Conclusion

These burials at Walters Ferry offer a unique glimpse into the lives of two adult, hard-working and bone-weary Euroamerican women. Burial A occurred sometime after December 25, 1888 and before March 6, 1889. Burial B is assumed to be approximately the same age. In future investigations, isotope analysis from these remains might determine their diets and origins. Their masculine, work-worthy clothing and evidence of disease and trauma provides evidence for the changing and difficult working lives of women in nineteenth century rural Idaho. Osteological analysis reveals the women worked hard and suffered chronically from infection and degenerative disease. However, the pathological conditions they endured do not seem out of the ordinary for the context. The broader anthropological importance of these burials lies in the cultural-historical significance of Walters Ferry itself. Designed to serve as a crossing for people traveling between Boise City, Fort Boise, and mining towns such as nearby Silver City in the Owyhee Mountains, Walters Ferry was both an important transportation node in the late 19th and early 20th century, and representative of life in general along stage/wagon and ferry routes and nearby boom towns in the intermountain west.

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