REMOVAL OF FOUR BURIALS FROM ST. JOHANNES CEMETERY, BENSENVILLE, ILLINOIS

Chicora Research Contribution 519

REMOVAL OF FOUR BURIALS FROM ST. JOHANNES CEMETERY, BENSENVILLE, ILLINOIS

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CHICORA RESEARCH CONTRIBUTION 519

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MANAGEMENT SUMMARY

This study briefly reports on the excavation and removal of four burials from St. Johannes Cemetery in Bensenville, Illinois. The cemetery began in the first half of the nineteenth century and continues in use today. It was historically associated with the German-American community of small farmers that settled in the area and at least into the 1930s was still called the Evangelical St. Johannes Kirche and Cemetery. Today the cemetery includes about 1,400 burials on the roughly 2.5 acre cemetery and church lot.

St. Johannes, however, is best known as the eye of the storm centered on the expansion of the O'Hare International Airport and the City of Chicago's efforts to seize the property using eminent domain and require the removal of the burials. To this end the Louis Berger Group out of Morristown, New Jersey has been awarded a $10 million contract to remove the burials once the City has managed to acquire the property. The efforts, however, are still tied up in last minute legal efforts.

It is worth noting that as one part in the City of Chicago's effort to remove the cemetery, the City's O'Hare Modernization Act, pushed through the Illinois legislature, exempts the City from complying with a variety of state laws, including the Illinois Human Skeletal Remains Protection Act, as well as the Illinois Archaeological and Paleontological Resources Protection Act, and even various provisions of the Illinois Municipal Code governing cemetery removal.

Chicora Foundation was contacted by the Geils Funeral Home in April 2009 in anticipation of several families requesting the removal of graves prior to the City's ownership of the cemetery. The Geils Funeral Home, while more than capable of removing those remains in vaults, desired that skeltonized remains not in vaults be removed in a professional, dignified, and respectful manner. We were therefore contracted to participate in the removal process.

In early August Chicora's team went to Chicago for the removal of four graves. One was an adult, [redacted] one was an adolescent, [redacted] and two were infants, [redacted] and [redacted]

Although detailed osteological studies were not possible, the families did permit brief metric and non-metric analyses while the remains were being removed. In addition, casket remains and casket trimmings were also available for photography prior to reburial.

Consequently, although only four burials are available for study, these remains provide an interesting opportunity to examine a turn of the century rural farming community. [redacted] [redacted] the only adult, provides extensive evidence of occupational and age-related skeletal conditions. [redacted] an adolescent who died from injuries sustained in a fall, exhibits not only evidence of the trauma, but also extensive tooth disease. The infants clearly document a high mortality rate, even in the early twentieth century.

The caskets and associated trimmings provide an excellent opportunity to examine a wide range of material culture. One aspect of this work includes an attempt to calculate wholesale costs. This effort reveals the high cost of death, even in the early twentieth century.

The research also suggests that while coffin and casket hardware might be more universal in the nineteenth century, the importance of local supplies may have increased in the twentieth century.

The work also provides important information applicable to the more intensive efforts at cemetery removal, should the City's efforts prove successful.

For example, while Berger anticipates the use of ground penetrating radar, this approach may not only be difficult given the soils and water table, but it is also likely unnecessary. Burials at St. Johannes are easily distinguished and clearly visible with the removal of the A horizon soils.

In addition, we found that burials in this cemetery tend to be very deeply buried – up to nearly 2 meters. In spite of this, and the resulting crushing it caused, bone preservation was typically good for all except the infants. This will allow considerable latitude in the types of studies appropriate. In fact, we hope that a sizable allocation of the $10 million budgeted for this removal involves osteological studies capable of expanding our knowledge and understanding of twentieth century rural farm populations in the Midwest. Our effort to identify comparable literature found that relatively few studies appear to be widely available to the professional community. Certainly the information concerning caskets and casket trimmings will provide a significant contribution to the literature since there are few studies of mid- to high-status remains for the late nineteenth and early twentieth centuries.

While Berger has allotted 14 hours for the removal of each burial, we found that excavations could typically be conducted in 10 to 12 hours; this may result in savings to the City should the cemetery eventually be removed.

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The Project

In late April 2009 Chicora was contacted by the Geils Funeral Home in Bensenville, Illinois concerning assistance in the removal of several burials from a nineteenth century cemetery known as St. Johannes or St. Johns at the edge of the O'Hare International Airport in the vicinity of Chicago, Illinois.

As will be discussed below, the cemetery and the City of Chicago are engaged in an ongoing legal – and social – battle over the removal of the cemetery. The cemetery is still in active use, being associated with the United Church of Christ.

The Geils Funeral Home had been contracted to remove several family plots. Most of the burials were anticipated to be intact vaults and the exhumation would simply involve the removal of the vaults and their transfer to a new resting place. Four burials, however, were thought to be only in caskets and outer boxes. For these the funeral home felt strongly that any sort of commercial removal was inappropriate and the remains should be identified and removed using forensic archaeological/anthropological techniques that would respect the remains while ensuring complete recovery.

Although Illinois has very comprehensive laws protecting human remains that provide detailed provisions on identification, recovery, and analysis, these laws were not applicable as will be explained in a following section. As a result, there was no legal requirement that forensic techniques be used and no minimum level of professional analysis dictated by Illinois law.

As a result, our involvement was limited to the identification of the burials, their exposure, and removal with only very limited in-field metric and non-metric observations of the human remains. Materials were to be boxed and turned over to a representative of the Geils Funeral Home for immediate reburial.

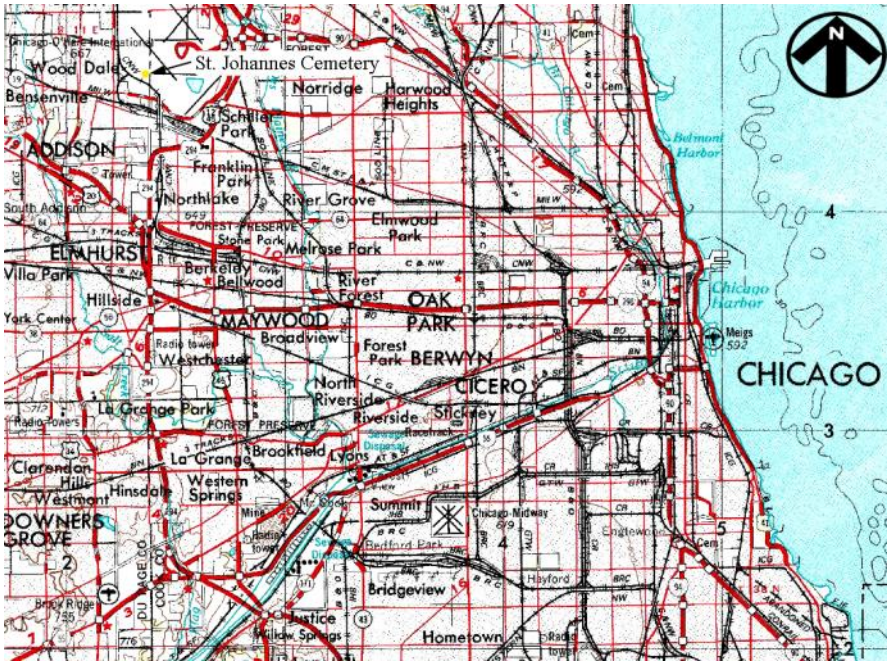


Figure 1. Location of St. Johannes Cemetery in the Chicago area.

Similarly, all cultural remains, including coffin hardware and clothing items, were

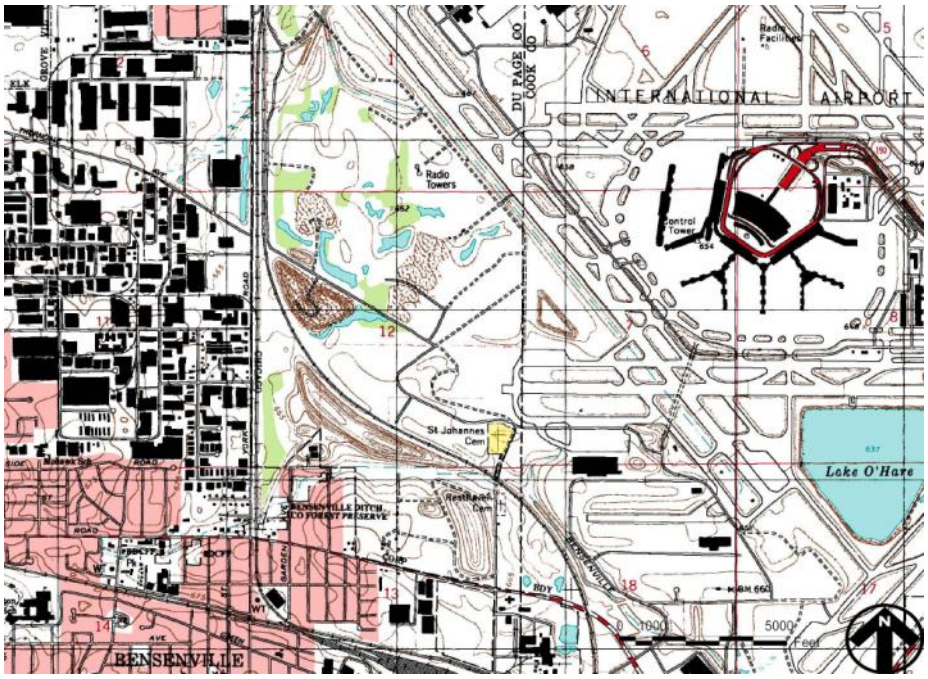


Figure 2. Portion of the Elmhurst USGS topographic map showing the vicinity of St. Johannes Cemetery (in yellow).

documented and then turned over to the funeral home for reburial.

Thus, while this project fails to provide comprehensive analysis of the human remains (for example, no dental casts were made, no radiographs were taken, and no samples were retained for destructive chemical studies), it has been possible to make at least some minimal contributions to our understanding of early twentieth century rural Illinois populations. In addition, the analysis of coffin hardware presents an interesting introduction to the materials available at the time.

Prior to the exhumations, both the Illinois State Archaeologist and the Illinois Deputy State Historic Preservation Officer were notified by email and invited to conduct a field visit. Neither party responded to the invitation or visited during this study.

The investigations were conducted from Thursday, August 13 through Saturday, August 15 and Monday, August 17 through Tuesday, August 18, 2009.

The field investigations were conducted by Ms. Debi Hacker (osteologist), and Ms. Nicole Southerland and Ashley Guba (archaeologists). The field director and principal investigator was Dr. Michael Trinkley. Oversight and project management was provided by Mr. Eric Urbaniak (Illinois Funeral Director and Embalmer, License 034015412).

The Setting

St. Johannes Cemetery is situated on the eastern edge of DuPage County, just outside Cook County and the City of Chicago. The cemetery is situated about a mile northeast of the Town of Bensenville. Originally the cemetery was found at the end of Division Road, about 0.6 mile north of Irving Park Road. Today, development around the cemetery requires a more circuitous route through the construction zones, using a northern extension of O'Leary Drive that eventually ties into the remnants of Division Road.

Historic accounts suggest that the cemetery was originally in a relatively rural and perhaps even isolated setting on the outskirts of nearby Bensenville. Today, however, the setting has been severely compromised by the intrusive elements of O'Hare, most particularly its visual intrusion, with runways only 500 feet distant. In addition, the cemetery has been significantly

affected by "audible intrusions" (Gunderlach 2007).

The county is in what is known as the Central Lowland Province – the largest geomorphic province in the United States, extending from just east of the Great Lakes to just west of the Dakotas. The area's topography has been defined by Pleistocene glaciers which pushed down from Canada on at least four occasions. Drainages were remodeled, low areas were filled, and high elevations were eroded (Kiver and Harris 1999:730, 733).

The geology is characterized by a ground moraine with low elevations, gentle slopes, ill-defined ridges, and broad, shallow depressions. Although there are small outcrops of limestone bedrock in the Naperville and Elmhurst areas, most of the county is covered by deep drift, often 100 feet or more in thickness (Anderson 1919:137-139). Soils specific to the cemetery consist almost exclusively of Elliott Silt Loams, 0-2% slopes.

The Elliott soils are very deep, somewhat poorly drained soils on till plains. The Ap horizon is typically about 0.5 foot in depth and consists of a black (10YR 2/1) silt loam. Below is an A horizon of similar silty clay loam to about a foot. These horizons tend to be slightly acidic.

The Bt1 horizon, to a depth of about 1.3 feet, consists of a light olive brown (2.5Y 5/4) silty clay that is neutral. The following 2Bt2, 2Bt3, 2Bt4, and 2Bt5 horizons extend to a depth of nearly 3.5 feet and grade from a light olive brown (2.5Y 5/4) silty clay loam to an olive brown (2.5Y 4/4) silty clay loam. Soil pH gradually shifts from neutral to slightly alkaline.

The 2Cd horizon, to a depth of 5 feet, consists of an olive brown (2.5Y 4/4) silty clay loam that is very firm and contains a mixture of small gravel. The soils at this depth are moderately alkaline.

While the soil reaction is conducive to the preservation of bone, the soils have an intermittent perched seasonal high water table, typically between January and May, at a depth of about 2 feet. Coupled with the slow permeability of the soils, these features promote degradation of the bone. The fluctuating water table may also result in water entering poorly sealed or damaged vaults.

Most of the area was historically cultivated in corn, soybeans, small grain, and meadow. The potential natural vegetation of the area was a mosaic of oak–hickory forest and bluestem prairie. The prairies covered the well-drained gravel moraines, coexisting with dry upland forests (characterized by bur oaks and white oaks). On moister uplands, such as those in the cemetery area, were mesic forests with trees such as sugar maple, basswood, red oak, and white ash. Over the years, fire suppression reduced the number of prairie openings, increasing forest density. Cultivation reduced forest coverage and, eventually, urbanization reduced the land available for crops (Woods et al. 2006:10).

The average winter is about 25°F and the average daily minimum is usually about 19°F. Frost penetration can be routinely expected to depths from 3 to 4 feet and this certainly would have affected the ease of burial during the winter months.

In summer the average daily temperature is 72°F, with a typical maximum temperature of about 85°F. This, however, is deceptive. The average humidity is about 60% in the afternoons and upwards of 80% during the night and morning hours – increasing summer discomfort.

Annual precipitation is about 37 inches, with nearly 20 inches or about 54%, falling during the growing season from April through September. Average snowfall is about 36 inches – further affecting winter burials at St. Johannes.

	Population			Agriculture												
year	whites	blacks	farms	acres, improved	acres, unimproved	horses, asses, mules	cattle	sheep	swine	wheat, bu	barley, bu	oats & rye, bu	buckwheat, bu	corn, bu	potatoes, bu	hay, tons
1840	3,531	4				859	5,617	831	8,213	53,641	1,912	136,638	1,602	65,261	85,370	10,665
1850	9,287	3	960	86,200	59,231	2,266	10,202	12,617	5,080	259,283	5,745	230,512	3,282	198,363	53,068	23,617
1860	14,696	5		155,207	51,154	5,833	19,765	21,669	8,118	212,922	37,421	602,659	3,199	409,131	221,713	51,441
1870	16,652	33	1,409	164,874	21,094	6,351	18,500	26,932	9,253	106,789	72,062	868,362	1,683	331,981	141,637	52,430
1880	19,101	60	1,695	186,287	15,778	7,545	26,773	14,674	25,142	45,094	3,682	1,102,543	507	907,451	268,893	49,357
1890	22,435	116	1,634	175,642	16,388	8,924	28,765	8,175	25,309	45,829	17,305	1,713,248	206	1,032,592	489,888	59,604
1900	28,021	165	1,704	162,798	32,400	15,956	34,578	11,469	48,318	33,950	50,160	1,759,300	30	1,532,230	302,321	39,245
1910	33,252	171	1,599	154,881	23,791	8,845	30,828	1,368	21,811	61,556	29,219	1,380,100	55	1,232,667	148,214	56,714
1920	41,966	154	1,756	155,663	32,429	8,097	29,850	2,301	27,844	360,760	197,993	811,439	2,974	681,201	22,783	148,560
1930	91,677	319	1,296	118,241	22,129	4,218	18,791	-	14,671	93,196	287,871	799,475	1,560	602,288	11,139	27,068

Table 1. Population and agriculture of DuPage County from 1840 through 1930.

Early History of DuPage County and Bensenville

This project did not include any historical research – either primary or secondary. As a consequence, this overview is brief and meant only to provide a general context for the remains encountered.

Throughout its history DuPage County has been inexorably linked with Chicago, and especially its transportation system. First, it was the DuPage River and the water power it afforded. By the 1840s, it was the Illinois & Michigan Canal, linking Lake Michigan to the Illinois River. By 1848, it was the Galena & Chicago Union Railroad. Eventually six railroads and an interurban line would be found in DuPage. By the mid-twentieth century, it was O'Hare Airport.

DuPage was separated from Cook County to the east in 1839, with Naperville established as the county seat. Early efforts to shift the county seat to a more central location were resisted and it wasn't until 1867 that Wheaton was selected (http://www.encyclopedia.chicagohistory.org/pages/396.html).

DuPage was historically an agricultural county, producing grain, produce, livestock, dairy, and other products with most sent directly to Chicago. In 1874 the farm lands in DuPage County's Addison Township were described as has having become very valuable, "even higher in price than lands nearer Chicago, to be used for agricultural purposes" (Anonymous 1874:vii). By 1886 DuPage was "one of the richest, most prosperous and prolific in the state" (Anonymous 1886:20). The author observed that a principal feature was the "great and popular" Chicago, Burlington & Quincy Railroad that passed through the county's entire length from east to west. There were 1,695 farms from which "one and a half million dollars worth" of agricultural products were obtained yearly. The value of the lands, buildings, and other improvements was set at $12 million dollars.

Table 1 reviews the development of the county and its agricultural production from 1840 to 1930.

Figure 3. Typical farm setting in Addison Township at the end of the nineteenth century (*Combined Atlas Map of DuPage County*, 1874).

The number of improved acres in the county peaked in 1880. While acreage begins to decline, the number of farms continues to rise

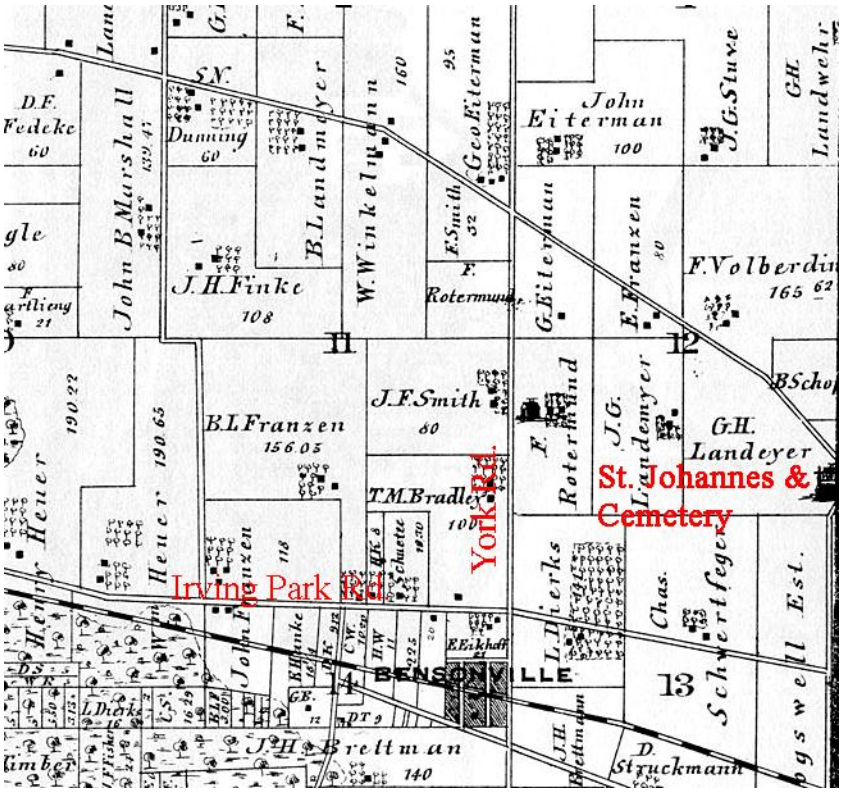


Figure 4. Portion of Addison Township in 1874 showing Bensenville and the St. Johannes Church and Cemetery (*Combination Atlas Map of DuPage County*, 1874).

until its peak in 1920 and collapse in 1930. Beef and hog production peaks in 1900, the same year that corn and oat production reaches their highest point in the county.

The town of Bensenville, situated in the northeast corner of the county, began as an enclave of German settlers in the 1830s with immigration spurred by political strife in Europe. Purchases that formed the town began in the 1870s, but it wasn't until 1884 that Bensenville was incorporated. The first school opened in 1886, and storm sewers were constructed a year later. Other features of an urban community, such as telephone service, concrete sidewalks, and electricity, followed in the early 1900s. Throughout, Bensenville was tied strongly to the railroad industry, although the surrounding farms focused on providing crops and meat to Chicago. In 1916 the Chicago, Milwaukee, & St. Paul Railroad constructed a roundhouse and freight yard in Bensenville (http://www.encyclopedia.chicagohistory.org/pages/130.html).

By 1930 DuPage County was no longer a predominately agricultural community. The census of that year reveals more men in both the building industries and retail trades than in agriculture and nearly as many employed by the railroads. Nearly three-quarters of the population was classified as urban by the census. Those still in agriculture were hit by the depression – there were nearly as many tenants as owners and tenants worked nearly 73,000 acres, compared to the 45,000 acres worked by owners.

The composition of the county had also changed by 1930. Less than 13% of the county was foreign born and of those, less than a third

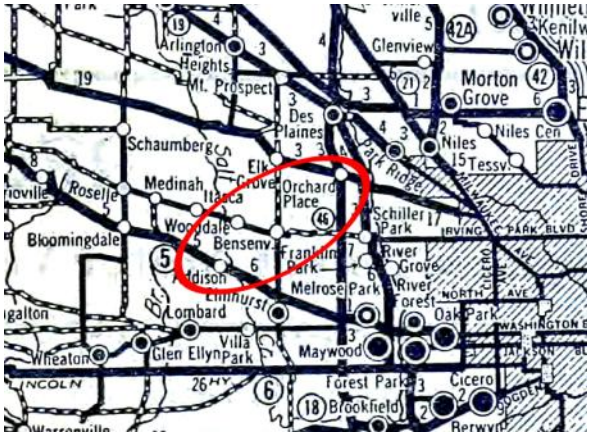


Figure 5. 1927 road map showing the location of Orchard Place in relationship to Bensenville.

was German. In 1890, 29% of the population was foreign born and nearly three-quarters of these were from Germany.

Nearby was an unincorporated community called Orchard Place, named for the Wisconsin Central depot that opened there in 1887. The location never attracted much attention, although a small subdivision did become established there in the 1930s. In 1942, however, Douglas Aircraft took over Orchard Place for the production of WWII cargo planes. With the end of the war, the City of Chicago took over the small airfield for use as a commercial airport. In 1947 Chicago selected the site for the city's new international airport, named for Edward H. "Butch" O'Hare, a naval aviator who on February 20, 1942 became the U.S. Navy's first flying ace and Medal of Honor recipient in World War II (Keating 2008:247).

The Development of the Funeral Industry

As early as 1886 there were three undertakers in nearby Naperville – Charles Babst, Frederick Long, and Philip Orcutt. At least the first two were also furniture dealers, as was common for early undertakers and embalmers. *Holland's Business Directory* commented that Babst carried a "diversified stock of . . . undertaking goods, including fine hearse." Frederick Long began undertaking in 1870 and his store held a "fine assortment . . . of coffins, caskets, and burial cases, keeping two fine hearses, one of black, for adults, and one white, for those of tenderer age" (Anonymous 1886:71-72, 78, 153).

Other undertakers in the area included Edward F. Stuenkel (Everett) and Frank Forke (Wheeling) advertising at least by 1902. By 1907 F. Hacker (Arlington Heights) was advertising both undertaking and furniture. Uriel A. Reese (Arlington Heights) was in business by about 1916. Edwin Melzer was advertising by 1920. William H. Scott (Willmette), Ross D. Heaps (Evanston), and Lanterburg & Oehler (Niles Center) were advertising by 1922. F.F. Danielsen (Palatine), Leyden Undertaking Company (Franklin Park), and R. Lauer (Shermerville), were advertising at least by 1923.

While all of these firms were competing for business in the Bensenville area, we know that the Geils family begun offering undertaking by at least 1896 since their preserved records date at least this early (http://www.elmhurst.org/index.aspx?NID=404).

Henry Geils (occasionally spelled Giles) is shown in the 1870 census for Cook County as a 43 year old farmer from Hanover, Germany. Although uncertain, it appears based on the 1890 Chicago Voter Registration form that he arrived in the United States about 1851, with his papers passing through the Court of New York. Geils is shown in the 1870 census as having $2,000 in real estate and $600 in personal estate.


On the Chicago, Burlington & Quincy Railroad. 113

ESTABLISHED 1861.

FRED. LONG,

Manufacturer and Dealer in

Furniture AND Upholstery,

AND GENERAL

UNDERTAKER,

Has one of the Largest and Best Assorted Stocks of Goods West of Chicago, and offers them and his services at Reasonable Prices.

☞ Please call and see for yourselves.

N. W. Corner Washington St. and Jackson Ave.,

NAPERVILLE, - ILLINOIS.

Figure 6. Advertisement for Frederick Long from *Holland's Business Directory of Naperville, Illinois*, 1886.

Figure 7. 1908 advertisement for Geils & Kirchhoff.

His family consisted of his wife, Mary, also from Hanover, and their eight children. The information is repeated in 1880 and by 1900 Henry Geils, then listed as 68, had his occupation identified as "capitalist" – an unusual deviation from the typical census instructions.

John (or Johann) C. Geils is shown in the 1900 census of Addison Township, Village of Bensenville, as a 33 year old carpenter. He had been married to Emma Koebbemann for six years and they had three children. Also living with them was Emma's sister Clora, as well as an employee. The 1910 census continues to list John C. Geils as a house carpenter. Living on Lincoln Avenue, they owned their home without a mortgage. In 1920 Geils' occupation was listed as the manager of a garage. It isn't until 1930 that John C. Geils listed his occupation as "undertaker." By that time his son, Leonard, was listed as the proprietor of the garage.

In spite of these census records, we know that at least as early as 1908 John C. Geils was in business with Carl E. Kirchhoff conducting funerals. Geils & Kirchhoff advertise in local papers until at least 1921, when the *Daily Herald* includes a brief comment that,

> the old settlers around this part of the country are leaving the happy hunting grounds rapidly. Geils & Kirchhoff are kept very busy (*Daily Herald*, October 21, 1921).

The 1900 census lists Kirchhoff, then about 22 years old, as a grocery salesman. In October 1901 he married Laura Schoppe and the newspaper announced that he would "live in the house formerly occupied by John Geils" (*Daily Herald*, November 9, 1901). By 1904 he was operating a hardware store (*Daily Herald*, May 10, 1904) and was engaged in tin working (*Cook County Herald*, June 3, 1904, December 22, 1905). The 1910 census shows him as a hardware merchant. In 1920 Kirchhoff sold his hardware store and agricultural business, but retained his interest in the undertaking firm

Figure 8. 1931 advertisement for Geils Funeral Home.

(*DuPage County Register*, December 3, 1920). The 1930 census reports that Kirchhoff was a real estate broker – he is never listed in the census as an undertaker.

Geils began advertising as J.C. Geils & Son by at least 1925 and in 1929 the firm announced the construction of a new funeral home. By 1930 the *DuPage County Register* commented that the building, "stands out more and more as a monument of beauty" with "no pains . . . spared to make the whole interior actually like a house" ("New Geils Funeral Home is Model of Homelike Beauty," *DuPage*

Figure 9. Advertisement for the Geils Ambulance Service from 1954.

County Register, May 2, 1930). The new home officially opened on July 26 ("Formal Opening of Geils Funeral Home," *DuPage County Register*, July 25, 1930).

John C. Geils died in 1939 and the business was passed to his son, Leonard H. Geils (1894-1977). With his death the business was passed to John W. Geils (1926-2009). Like others in the family, however, he did not enter the business immediately. He spent his early years as a conductor for the Chicago, Milwaukee, St. Paul and Pacific Railroad, attending mortuary trade school in his late 20s. John W. Geils also operated an ambulance service through the late 1950s ("John W. Geils, 1926-2009: Funeral Home Operator Loved His Community," *Chicago Tribune*, July 27, 2009).

The business is today operated by James W. Geils, a fourth generation owner. During its history the Geils family buried a very large number of the Bensenville residents, many at the small cemetery known as St. Johannes.

St. Johannes

Hucke and Bielski (1999:85) identify the founding of the St. Johannes Church (also known by its English, St. John's) in 1837. This initial church, combining Evangelical, Reformed, and Lutheran teachings, was known as The German United Evangelical Reformed Lutheran Church of Addison (http://history.bensenville.lib.il.us/Churches/St%20John.html).

Although today part of the United Church of Christ, this religion was not formed until 1957, being an amalgam of four groups. These included the Congregational Churches of the English Reformation and the Christian Church, united in 1931 to become the Congregational Christian Churches. The other two were the Evangelical Synod of North America, a 19th-century German-American church, and the Reformed Church in the United States. These were both of German and Swiss heritages with ties to the Reformed and Lutheran traditions. They united in 1934 to form the Evangelical and Reformed Church


Figure 10. The 1873 church with the cemetery in the background to the left.

(http://www.ucc.org/about-us/short-course/the-early-church.html).

The first building was built in 1849 and was lead by a Rev. Wucherer who died within a year and a half of the church's completion.

Figure 11. 1939 aerial photograph of St. Johannes Cemetery. Pathways are clearly visible, as is the church in the northeast corner of the cemetery. Note also the farms to the northeast and east of the cemetery.

Wucherer was replaced by Rev. Peter Moecklin, a Swiss native. A new church was constructed in 1873 (Figure 10). Little, however, is known about the origin and development of cemetery.

Even as late as 1925 St. Johannes was a recognized landmark. Knoblauch commented that driving Irving Park Road from Cook County,

> At 0.1 m. is a junction (R) with Mount Prospect Road [today Division Road], a graveled thoroughfare. The intersection was formerly known as Cogswell's Corner, after an early land owner in the locality. Right on Mount Prospect Rd., 0.6 m. is a junction with another graveled road, Lawrence Ave. [this road is no longer present]. Here (L) are the EVANGELICAL ST. JOHANNES KIRCHE AND CEMETERY. . . . The present white frame church building, with belfry and round-arched windows, was erected in 1873 and remodeled in 1919. Although only two houses share the crossroads, the church draws a membership of 500 from the surrounding farms (Knoblauch 1951:214).

These roads, and the adjacent farm houses, are clearly visible in the 1939 aerial photograph (Figure 11).

With the expansion of Douglas Field, the church building was in the way and slated for removal. Eventually a compromise was developed that allowed the church to be moved to a new location about 2 miles west. The cemetery, however, was allowed to remain (http://ohare.bensenville.lib.il.us/Cemeteries_of_ORD.htm).

In the summer of 2001 Chicago Mayor Richard Daley announced a $6.6 billion plan to expand O'Hare airport (today the figure is at least $20 billion), dislocating 539 residences and 109 businesses. As part of this plan a runway (Runway 10C-28C) would be constructed over both St. Johannes and a smaller cemetery, Rest Haven, to the south. By July 2005 the Federal Aviation Administration (FAA) approved the City's O'Hare Modernization Plan (OMP), including the acquisition of the cemetery property using eminent domain.

Figure 12. Modern aerial photograph of St. Johannes Cemetery

When efforts to invoke provisions of Illinois laws protecting religious freedom and property were made, Chicago lobbied the Illinois legislature to pass the O'Hare Modernization Act (OMA). This law specifically exempted the project from a variety of Illinois laws, including the Illinois Religious Freedom Restoration Act, the Archaeological and Paleontological Resources Protection Act, the Human Skeletal Remains Protection Act, various provisions of the Illinois Municipal Code governing cemetery removal, the Illinois Vital Records Act, and the Illinois Aeronautics Act.

In response, a federal lawsuit was filed in May 2003, as well as motions for a Temporary Restraining Order and a Preliminary Injunction. In September 2003 clergy from a variety of religious faiths marched to the cemetery and reconsecrated the cemetery in an attempt to emphasize the sacred nature of the site. At that time the legal action for the plaintiffs included The Becket Fund for Religious Liberty; attorneys Joseph Karaganis, Bruce White, and John Kalich of the Chicago law firm of Karaganis, White & Magel; James Knippen of the Wheaton law firm of Walsh Knippen Knight & Diamon; and Robert Cohn and Alexander Van Der Bellen of the Washington, DC law firm of Hogan & Hartson (St. John's United Church of Christ et al. v. City of Chicago, et al., US District Court for the Northern District of Illinois, Case No 03-C-3726).

In September 2005 the OMP entered into a Memorandum of Agreement (MOA) concerning St. Johannes, valid for a period of five years. This agreement stipulated that within 180 days of the FAA's issuance of a Record of Decision (ROD), the City would produce a map of the cemetery and archival photographic recordation of all stones, with copies of the documentation being provided to the church, the Village of Bensenville, the Bensenville Historical Commission, and the State Historic Preservation Office. The ROD was issued October 2005.

A simplified protocol was developed as an appendix to the MOA that stipulated the city would retain an archaeologist to work with the Illinois Historic Preservation Agency, as well as a licensed funeral director. Disinterments would be conducted "in a manner that is as similar as may be reasonably possible to the procedures described in implementing the Illinois Skeletal Remains Protection Act" (this is the same legislative provision that was circumvented by the OMA). The city specified that it would advertise for next of kin. Graves would be moved to locally available cemeteries – there was no discussion of any effort to maintain the historic setting, context, or organization of the cemetery. For those with no surviving family the protocol specifies that "St. John's Church of Christ shall choose the cemetery for the grave to be relocated to." Costs would be borne by the city, inclusive of "disinterments, moving, and reinterments" including transport of all "reusable existing grave markers" or replacement of "any unidentified or unusable

grave markers" as directed by family (http://dps.edge.com/objGW/OMImages/888/00002WWL/IMEDGE~1.PDF).

In 2006, while awaiting court action the OMP issued an offer of $630,000 for the cemetery property, not including disinterment and relocation costs, which the OMP would pay separately.

The suit was eventually heard by US Court of Appeals for the Seventh Circuit, which in 2007 rejected the religious land use claim. By this time the OMP had revised plans, allowing Rest Haven to remain undisturbed. In a split decision the court ruled that St. John's was not being targeted, but was only reluctantly included in a larger plan. The court noted, "St. John's does not allege that the City is seeking to acquire its land because of its religious significance; the City needs the land in spite of its current dedication to religious use." Similarly, the court rejected the claim that St. John's was being denied equal protection, noting that the City had "studied the alternatives thoughtfully, adopted some of them, and came up with a final plan that represents the City's best effort to be solicitous of the religious concerns involved without substantially undermining the goals of the overall project" (http://egov.cityofchicago.org/webportal/COCWebPortal/COC_EDITORIAL/032108_StJohnVFAA.pdf).

By September 2007 the City of Chicago contracted with the Louis Berger Group to handle the relocation of what is today estimated to be about 1,200 burials at St. Johannes once the property was taken by the City. The agreement today is set at over $9.5 million, or about $7,978 per burial, inclusive of both remains in vaults and those requiring archaeological exhumation. The contract stipulates that Berger is responsible for all aspects of the relocation, including exhumation, removal, reburial, relocation of stones, replacement of vaults or caskets as necessary, relocation or replacement of markers, and site security. The proposal estimated that those remains requiring archaeological exhumation would require about 14 hours each. This contract is still pending since the city has not yet acquired the cemetery. This agreement was modified May 2008, bringing the total to $10,023,033.96, about $8,352.53 per burial (http://dps.edge.com/objGW/OMImages/888/0000336C/DPS0001.pdf).

In 2007 the cemetery appealed to the US Supreme Court, but in an order issued on May 12, 2008, the Supreme Court denied St. John's request, leaving standing the Seventh Circuit Court of Appeals decision. As a result, in May 2009 the OMP issued a renewed announcement that it had commenced legal proceedings to acquire the cemetery property.

There are, however, at least two additional pending cases against the airport's expansion plans - one state and one federal. In

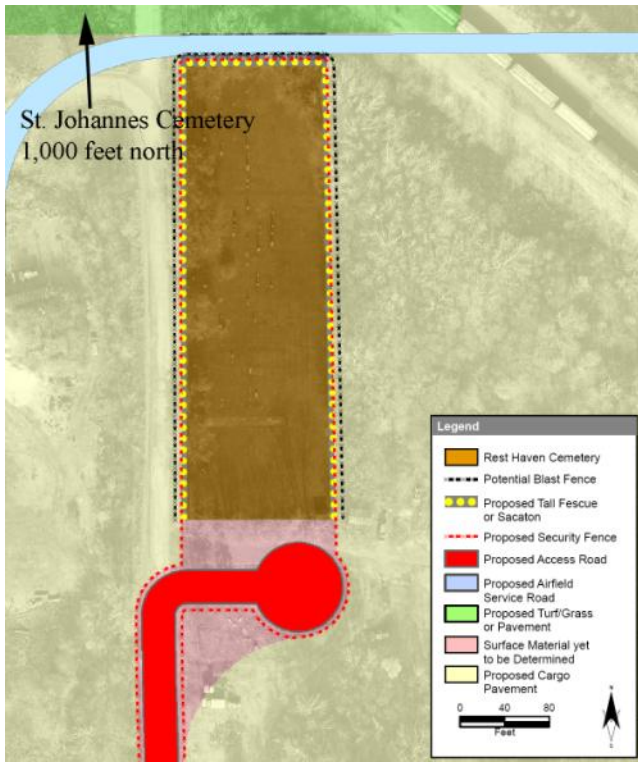


Figure 13. Plan proposed in 2005 for avoidance of Rest Haven Cemetery.

spite of these cases recent talks between the Town of Bensenville and the OMP suggest that the town may no longer be willing to fund legal action on the behalf of the cemetery (http://www.suntimes.com/news/transportation/1730938,CST-NWS-ride24.article).

German-American Culture

This study did not allow for any detailed research on the German community that made St. Johannes the center of their life. In fact, there are relatively few cultural studies that address the German settlers of the region. One notable exception is Kazal's (2004) work focusing on Philadelphia – which is admittedly not a good comparison to rural Illinois. Kazal does, however, challenge historians and anthropologists to rethink the concept of ethnic assimilation and especially pluralism. It does not, however, address broader issues of the German farming stock that typified the Bensenville area. Other available research, such as Brown's (2005) work, looks at the xenophobic culture of America around the First World War and efforts to erase German cultural heritage.

At a very general level, the German settlers drawn to the rural landscape were viewed as:

> more fastidious and ultimately successful stewards of the lands than Yankees. The symbolic and practical importance of the forest in German culture, especially during the nineteenth century, did much to reinforce this romantic view of German settlers (Anonymous 2005:12).

What is more clearly factual is that during the nineteenth century the church was the center of German-American religious, social, and cultural activity, especially in rural areas such as surrounded Bensenville (Anonymous 2005:20). Evidence can be seen in churches – such as St. Johannes – and the fact that these churches commonly held services in German well into the twentieth century. In fact, many German families continued to speak German in their homes, often into the second and third generations (Anonymous 2005:36). Most rural Germans respected tradition, while still valuing individual liberty. Thus, it is reported that these rural farmers tended to vote "for the national party that favored stronger local laws" (Anonymous 2005:31).

It wasn't until mass marketing and the consumer culture of the twentieth century that these older social and ethnic divisions were weakened. As ethnic identity declines, new identities formed around class, race (a factor seen in Philadelphia) and American popular culture (Anonymous 2005:27).

The census provides a "snapshot" of the individual exhumed during this project. For example, we learn that [redacted] emigrated in 1869 and in 1870 was listed as "working on a farm." By 1900, at age 78, he was shown as a farmer who did not speak English. He also did not own his land, working a rented farm.

In contrast, [redacted] was a second generation German. He was the son of [redacted] who emigrated in 1871. Born in Illinois, [redacted] was attending school and spoke English (as could Henry). [redacted] however, was also renting his farm.

EXCAVATIONS

General Methods

This was not what most would consider to be a traditional archaeological excavation – the City of Chicago's O'Hare Modernization Act which exempted its activities from the Illinois Human Skeletal Remains Protection Act did not allow that level of sophistication. Our involvement was limited to the careful identification, limited documentation, and removal of skeletal remains not contained within vaults.

Figure 14. Vault removal by Geils Funeral Home and Stark & Son Excavating.

Vault removals were conducted by the Geils Funeral Home with assistance from Stark & Son Excavating. This work consisted of probing to identify the vault location, followed by backhoe excavation and removal. Sealed vaults were not opened, but were transported to the new cemetery for reburial. This work had been largely completed prior to our arrival.

Previous probing revealed that four graves, those of [redacted] (1920), [redacted] (1821-1902), [redacted] (1888-1903) and [redacted] (1908) had been buried without vaults. Our focus was on these four graves. In each case the work began by using a penetrometer in an effort to identify the depth of the burial (identified by distinguishing between the lower compaction grave fill and the very firm clay subsoil).

The A horizon soils were initially removed by backhoe (a 3-foot toothed bucket was used) after which the B horizon soils were flat shoveled in an effort to identify the grave shaft. With the identification of the grave, the backhoe was again used to continue the removal of the overlying soil until wood casket remains were encountered. At that point the mechanical excavated ceased and hand excavation began – first by shovel and eventually using small hand tools. The goal was to minimize the time required to identify the casket remains while ensuring that no damage was done to either the skeletal remains or the casket furniture.

No mapping of grave locations was conducted, although we do have sketch maps of the various locations. We understand that St. Johannes Cemetery has a map of the various burial plots, although it was not available during this work. Vertical control was maintained using only below surface measurements, all of which are in metric.

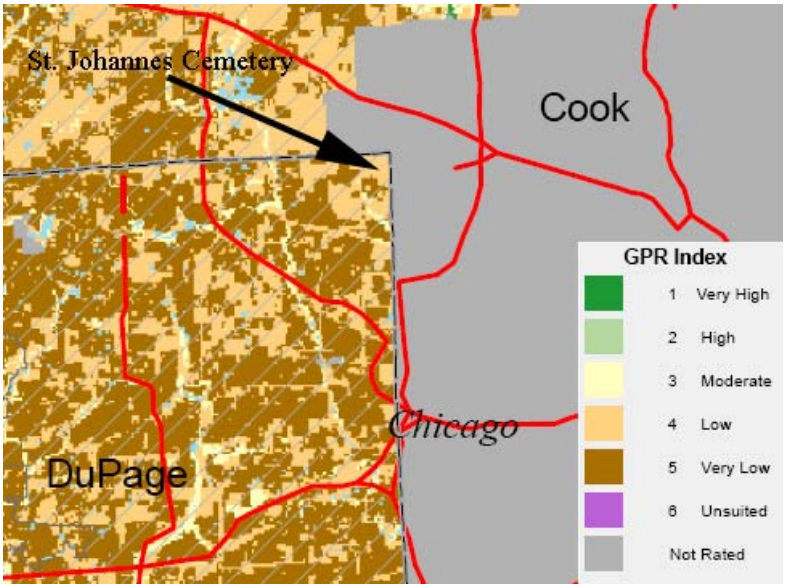


Figure 15. GPR potential for the St. Johannes Cemetery area.

We understand that Louis Berger will be conducting ground penetrating radar studies of the cemetery. Based on our study this may be problematic. The Natural Resources Conservation Service, USDA identified this area of DuPage County as having low potential for GPR applications (Figure 15). This is based on the dense clays and high water table. Added to this we found that burials lacking vaults tended to be very deep. Thus, it seems unlikely that this geophysical technique will be of any particular benefit. We found that careful investigative techniques and careful reading of the soil were more than adequate to identify grave shaft locations.

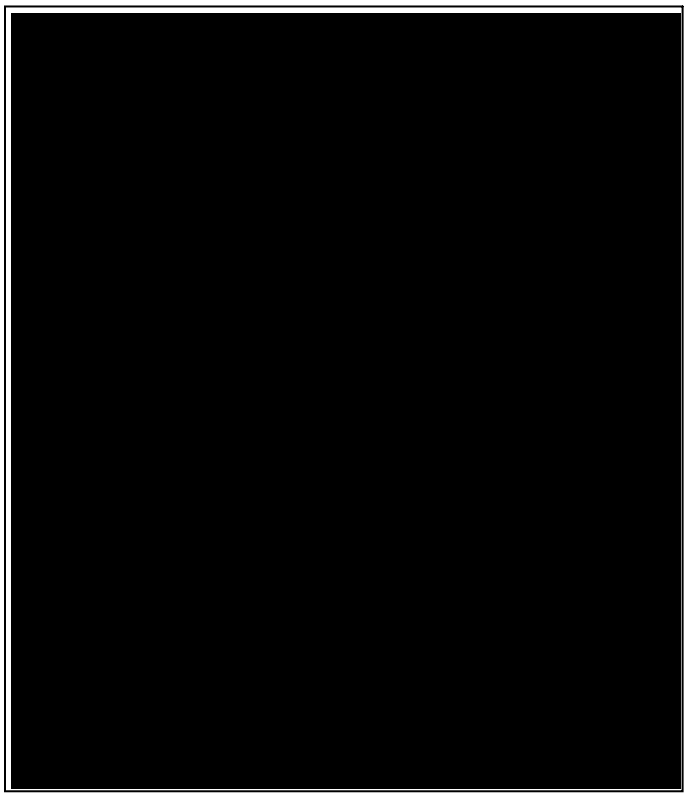
Materials found in the excavations, such as casket furniture and clothing items, were brush cleaned on-site and photographed. All items were placed in the new caskets for reburial and there was no provision for more detailed study.

Similarly, skeletal remains were exposed, cleaned in situ, and photographed. Only limited metric and non-metric observations were possible given the time frame allowed for the exhumations. It was not possible to take dental casts or conduct any radiometric studies. Nor were any samples retained for chemical study. Consequently, the observations possible are limited.

[redacted]

This stillborn infant was buried in 1920, but otherwise there was very little information concerning the remains. There was no information concerning the death in the Geils Funeral Home records and this, coupled with the time period, suggests that the burial may have been conducted by the family. The St. Johannes Cemetery records were silent on the infant's location. Oral history in the Dohe family placed the infant either on top of the grave of [redacted] (the infant's grandfather, who died 18 years earlier) or "beside" the grandfather.


Figure 16. Grave stain of [redacted] exposed. To the north is the vault of Lissette Mess, the infant's grandmother.



Our efforts were directed to the area of the family marker, a heavily worn marble pedestal tomb that had already been taken down. Remaining, however, was a very substantial concrete foundation, measuring about 1 meter square and nearly a meter in depth. When removed, we were fearful that the monument foundation might have impacted or even destroyed the infant's grave (we had no information on when the monument was erected). In addition, to the immediate north were the vaulted remains of Lissette Mess (the infant's grandmother). Upon cleaning the base of the excavations, however, we found evidence of a small grave stain. Additional excavation revealed the presence of wood.

Apparently the family chose to bury the infant directly east of the grandparents' monument, just north of the grandfather, [redacted] This was an open space in the plot, unsuitable for an additional adult burial because of the monument's substantial concrete footing.

Additional excavation revealed a wood box measuring 77 by 40 cm (about 30 by 16 inches) representing an outer box or shipping container. Just within this and only slightly smaller (72 by 32 cm or 28 by 12.5 inches) was the actual casket. The casket was about 20 cm (8 inches) in depth. Based on the soil stain, it appears that the lid was flat. Excavation revealed no hardware associated with the outer box, although cut nails were present. The box had collapsed inward under the weight of the soil.

Figure 18. Troweling top of Baby Dohe's grave to reveal wood.

The casket itself was covered with fabric, probably cotton. No inner lining was detected, but was likely given the presence of a single upholstery tack.

The only casket fittings were a series of decorative studs. There

Figure 19. Views of the [redacted] excavation. The top shows the presence of the outer box and inner casket, with collapsed wood. The lower shows the fully exposed remains, consisting of skull and pelvis.

were originally eight studs – three along the north and south sides and one each centered at each end.

Excavation revealed that the only remains present were the skull and pelvis; both had shifted to the south side of the casket. A single brass safety pin was the only clothing item recovered in association with the skeletal remains. Only small portions of the casket base were recovered.

All remains were removed and placed in a new Wilbert infant burial vault for reburial. As previously indicated, this included the casket hardware, except for one stud that was requested by the family for a keepsake.

[redacted]

The location of this grave, dating from 1902, was at first thought to be under the grave of [redacted] based on family tradition. However, backhoe excavation in this area failed to identify any evidence of a second burial and the soils were consistent with undisturbed clay subsoil. As a result, additional probing was conducted and the grave was identified south of the Mess family marker, immediately adjacent to the asphalt walkway.

The grave was initially exposed by backhoe, with excavations progressing to a depth of about 48 cm. At this depth we identified a threaded iron rod laying flat in the soil. With additional cleaning this rod was found to be on the centerline of a grave stain. We believe that the rod was placed in the backfill to alert anyone excavating here in the future that a burial was present. Since [redacted] was the first of the family to be buried there may have been some concern that his grave would be lost and

Figure 20. Initial exposure of [redacted] grave showing the iron rod placed in the burial pit during backfill to mark the grave.

possibly intruded into by some future excavation.

This rod did alert us to the fact that the burial excavation extended further east, requiring that the excavation area be expanded. This required the removal of the marker to the east of [redacted] Additional excavations revealed that the eastern, and more recent, burial was within centimeters of [redacted] grave. Fortunately there was no disturbance.

Figure 21. Exposure of the box outline in the grave shaft. View is to the south.

With full exposure of the grave, it was found to measure 213 cm in length and 63 cm in width (84 inches by 25 inches). An outline of a box became visible at 89 cm below the surface. With cleaning it was possible to distinguish the inner casket, measuring 175 cm by 46 cm (69 inches by 18 inches). The casket depth was difficult to determine because of bowing and collapse; however, we estimate it to be about 35 cm (14 inches).

During excavation an animal burrow was found in lower half of the grave. Contained in the burrow was a large amount of fabric, probably from the interior lining of the casket. Bone (the top of the skull) was not encountered until a depth of 150 cm below the surface.

This initial exposure of bone also revealed a very large quantity of shattered glass. Continued excavation revealed that this glass consisted of a viewing plate that was originally over the upper half of the body in the casket, indicating what is often described as a "half couch" casket.

In addition to the glass, we identified a series of six thumbscrews – three each along the north and south sides. Given the collapse of the outer box and inner casket it is not clear if these were placed on the casket or the box.

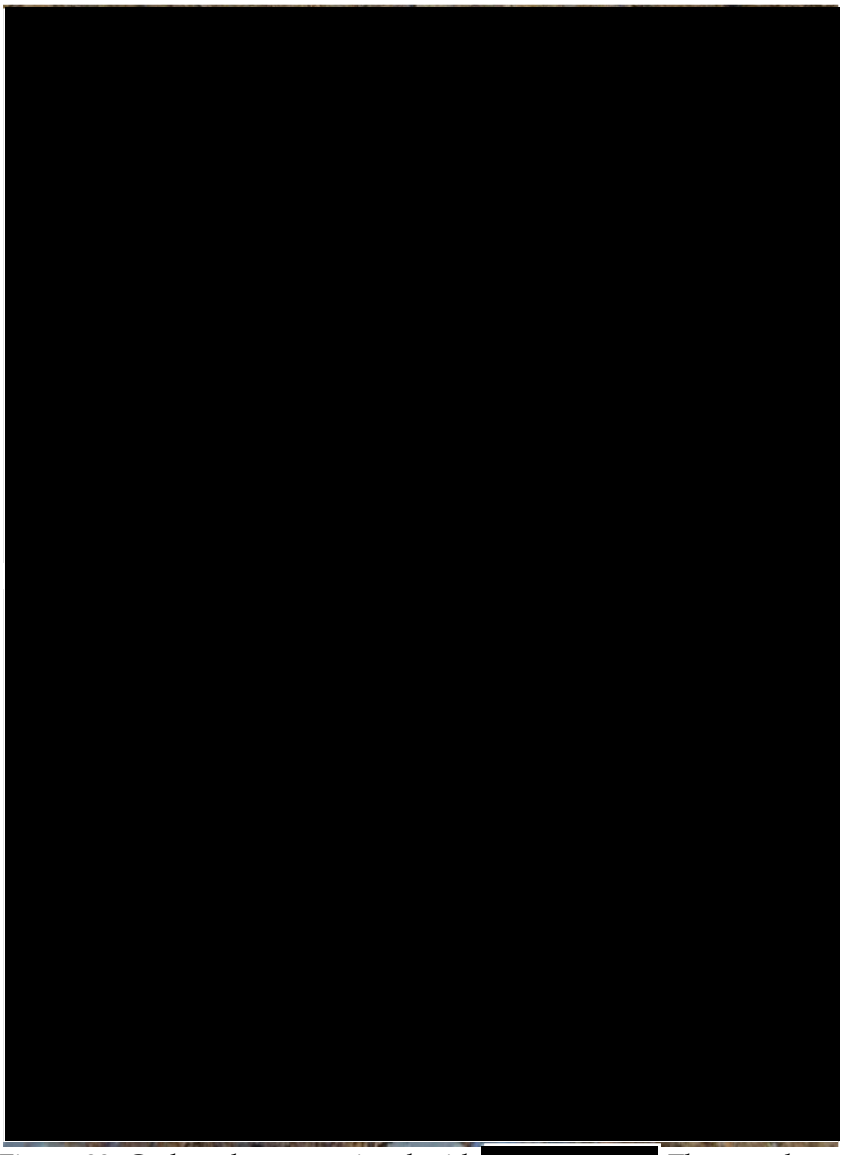


Figure 22. Casket plates associated with [redacted] The top photo shows the anchor plate, which has fallen, upside down. The bottom photo shows the sheaf of wheat in the chest area. Below it is glass from the viewing plate.

More clearly associated with the casket were a series of four cap lifters, all arranged along the centerline of the lid. A series of three short bar casket handles were found on each side of the casket. In several cases these handles were clearly found "lensed" between the outer box and the casket wood.

Excavation also revealed two decorative casket plates. One, found at the knees, consisted of an anchor attached to a rectangular base plate by a brass chain. The second, found at the chest, was a sheaf of wheat. Neither plate was curved, suggesting the lid of the casket was flat; this is consistent with the stains that were observed during the initial exposure.

The casket remains revealed a single lid support which probably held open the lid for viewing. No hinges were found, suggesting that they may have been iron and were not preserved. The only other hardware consisted of 61 nails, probably associated with both the outer box and the casket itself.

Still in situ were four porcelain buttons, two iron buttons, and one shell button. Three porcelain buttons and the one shell button were found down the centerline of the chest, probably representing a shirt. One of the metal buttons was found at the waist, probably representing a pant's button. The other metal button was found at the left wrist, and may have been from a coat. A porcelain button was also found at the left ankle, probably displaced from the chest area.

A dark organic stain was associated with the thorax and abdomen, likely representing still present decomposition

Figure 23. [redacted] grave excavation. The top photo shows the grave shaft stain at about 60 cm below surface. The bottom photo shows the initial exposure of the outer box stain at about 90 cm.

deposits. Upon removal of all bones, we observed that this stain was attracting a large number of green bottle flies (*Lucilia sericata*). This species is of special importance to forensic entomologists since the stage of the insect's development on a corpse can be used to calculate a minimum period of colonization, thereby aiding in determining the time since the victim's death. Blowflies are attracted to decaying hosts due to the odors produced by bacterial decomposition. Their presence on soil staining over 100 years old suggests that considerable organic material was still present.

[redacted]

Family tradition tells us that [redacted] a 15 year old, died at a local hospital as a result of head injuries sustained during a fall from the family's windmill in 1903. His grave was marked by a small marble die on base marker that was heavily eroded. Initial examination using a penetrometer clearly identified the grave shaft and revealed that this grave was at about the same depth as [redacted]

Initial exposure was conducted by backhoe. The grave stain was clearly recognized as the B horizon soils lightened, at a depth of about 60 cm. By about 90 cm the outline of the outer box became visible. This box measured about 201 by 76 cm (79 by 30 inches). Nevertheless, no wood evidence was identified until a depth of 130 cm.

When wood was exposed it presented a very complex cross pattern arrangement, reflecting portions of both an outer container and the casket itself. Below the wood was evidence of glass – representing a viewing plate identical to that identified for [redacted]

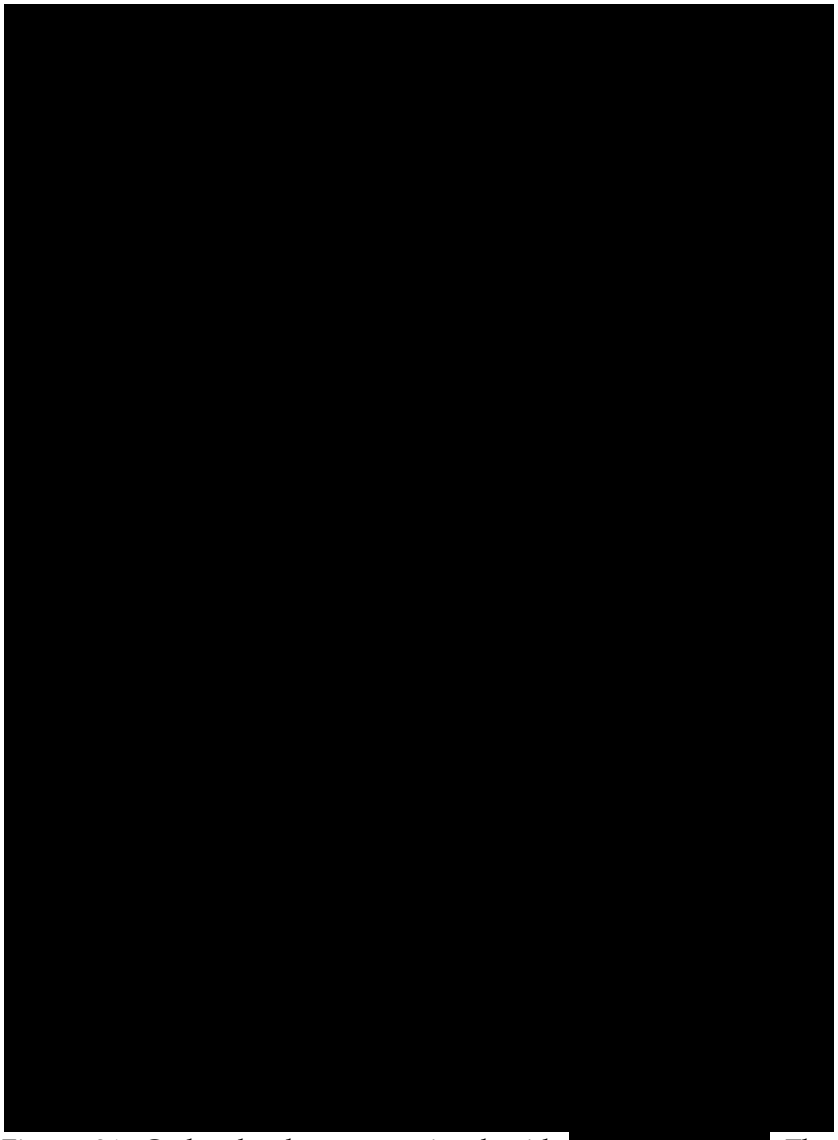


Figure 24. Casket hardware associated with [redacted] The upper photo shows one of the two lily decorations. The lower photo shows the casket plate as well as one of the short bar handles. North is to the top of both views.

The casket stain was identified as being only about 2-3 cm smaller than the outer box. The casket hardware included seven thumbscrews, evenly spaced around the periphery of the casket. There was likely an eighth, but it was not recovered. These appear to be associated with the casket, not the outer box.

Down the centerline of the casket were a series of four cap lifters. Two decorative plates were present, both representations of lilies; one at the chest and the second at the knees. In the center of the casket was a white metal casket plate which likely was inscribed, although its condition was too deteriorated to read.

The casket handles included six short bar handles – three to a side – plus two devices at each end. These consisted of a single lug and arm onto which was a short bar handle.

Also recovered was a lid support, identical to the one recovered from the [redacted] grave.

A total of 44 machine cut nails were recovered, associated with both the outer box and casket.

Clothing items were far less numerous than found associated with [redacted] There was distinct evidence of leather soled shoes, including three shoes nails and a small boot button at the right foot and four shoe nails at the left foot. Also recovered were three metal buttons – one each in the vicinity of the chest, knee, and right cuff.

[redacted]

While the previous three graves were situated in a Dohe plot at the northwest edge of the cemetery, the [redacted] grave is found in the northeast quadrant of the cemetery. This individual lived to the age of about 2½ months

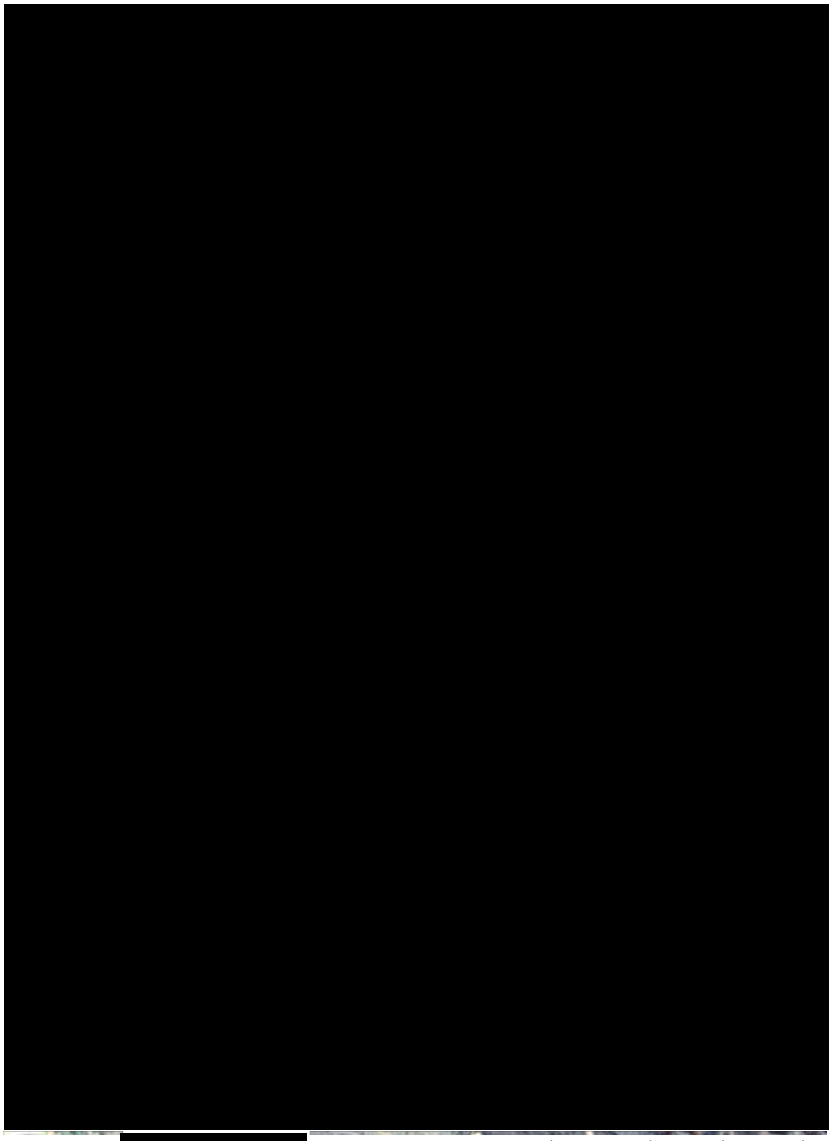


Figure 25. [redacted] grave excavation. The top photo shows the brass and iron lid support in situ. The bottom photo shows the remains fully exposed prior to removal.

and was buried in 1909. The burial location was identified by a pink granite die on base and the location was confirmed by penetrometer readings showing low compaction, immediately under and to the east of the infant's marker. The marker was removed along with its massive concrete footing. The initial excavation was by backhoe, with the bottom of the excavation being periodically flat shoveled to more carefully examine the floor for evidence of the grave shaft and casket remains.

The grave shaft outline was clearly discernable at a depth of 50 cm. The grave measured 123 by 60 cm while the stain representing an outer box measured about 85 by 45 cm (33 by 18 inches). Eventually a clearly defined casket stain was identified and this measured about 78 by 36 cm (31 by 14 inches).

While feature preservation was quite distinct, the remains were very deeply buried. The remains of the outer box were initially identified at a depth of 80 cm, although skeletal remains were not encountered until 119 cm.

The outer box was attached using four plain iron thumbscrews.

Two white metal cap lifters were found evenly spaced on the top of the casket lid. Two brass hinges were found on the south side of the casket. In the center of the casket was a white metal casket plate inscribed, "Unser Liebe" German for "Our Darling."

On either side of the casket were two short bar casket handles. Small amounts of surviving fabric reveal that the wood handles were fabric covered between the tips.

Figure 26. [redacted] Upper left shows effort to identify the grave outline after backhoe removal of the A horizon soils. Upper right shows the distinct grave outline. Lower left shows Debi Hacker and Ashley Guba excavating the remains. Lower right shows the grave excavated, with the skull in the lower left (southwest) corner of the casket.

Three shell buttons were found in the casket, one each at the neck, chest, and feet, probably representing an infant's dress. The only remains present were remnants of the skull. As in the case of the [redacted] burial, no evidence of a casket bottom was identified.

Summary

Several technical observations are possible as a result of these excavations. The burial pits are uniformly distinct and well defined. The fill varies from very dark remnant A horizon soils either incorporated into the backfill or that slumped into the grave as the box and or casket collapsed to mottled clays. The fluctuating seasonal water table appears to have caused little blurring of the grave outlines.

Burials are also readily detectable using a penetrometer, with graves exhibiting compaction of less than 150 psi. Undisturbed subsoil, in contrast, exhibits compaction of 200+ psi.

We also found that the monuments in the cemetery appear to be relatively well placed. Only one of the four burials was problematic, largely because it was both an infant and also undocumented by cemetery records. Otherwise, the markers appear to be within 1-3 feet of the anticipated grave.

The burials are, however, very deep, ranging from 120 to 150 cm below surface. In several cases the burial depths were actually deeper than adjacent concrete vaults. This depth resulted in greater excavation effort and also the

need to periodically assess soil condition and stability.

While the depth has resulted in considerable crushing of the remains and the fluctuating water table has likely resulted in the rapid disappearance of most infant bones, the condition of skeletal remains overall was fair to good. This allowed for in situ analyses, as well as limited measurements upon excavation. Preservation was so good that organic material was found in several of the burials, with putrefaction still detectable in one.

Figure 27. While remains are deeply buried at St. Johannes, preservation is excellent.

Not only are skeletal remains well preserved, but so too are both clothing items and casket furniture. Every grave examined produced assemblages and the materials were typically in good to very good condition.

Thus, ground penetrating radar is not only unlikely to provide reliable results at this cemetery, it is also unnecessary. Initial information can be readily obtained from markers. Even better locational information can quickly be obtained from simple compaction testing using a penetrometer. Once the A horizon soils are removed, grave stains are distinct with only modest cleaning (flat shoveling, for example).

Although burials are deep, the preservation is excellent. This indicates that for those remains where permission for more detailed study can be secured, the cemetery offers an exceptional opportunity to learn about a small ethnic farming community.

MATERIAL REMAINS

Clothing Remains

The only clothing remains are a single brass safety pin. This suggests that the infant was simply wrapped in a sheet or blanket that was closed with the safety pin.

The absence of clothing does not seem unusual. In the eight burials conducted by the McCormick firm in Columbia, South Carolina of infants a day of less in age between 1906 and 1915, none had any clothing purchased (in fact, purchased clothing does not seem to have been common for individuals under about 17 years old) (Trinkley and Hacker 2004).

The safety pin was patented in the United States in 1849 and evolved into its modern form by the turn-of-the-century. Although the base of the pin was not recovered, the head is consistent with the safety pin patented by J.D. Conner in 1900 (Patent 657,008) – a date consistent with the 1920 age of the burial.

Casket and Hardware Remains

As previously discussed, the casket associated with this infant measured about 2 feet 4 inches by 12½ inches by 8 inches (approximate interior dimensions).

Casket companies typically expressed size using two numbers, such as 2-0, reflecting feet and inches of the interior (thus, a 2-0 casket would have been 2 feet 0 inches or 24 inches in length). Width and depth, however, would be variable. Most catalogs include tables indicating these additional dimensions. Care must be taken not to confuse the casket sizes with those for "boxes" (which may be pine, hardwood, or even covered). These boxes are outer containers into which caskets could be placed. As might be imagined, boxes were consistently much larger than the casket to allow for hardware.

Many catalogs also provided helpful tables listing the size of casket necessary for infants and children. For example, the 1916 United States Casket Company (Pittsburg) advised that for a child of 3 months or under a 2-0 casket was suitable. That casket would have measured 9¾ inches in width and 8½ inches in depth. A note specifies to add 2½ inches to these dimensions to determine the exterior size.

Thus, this casket appears to have been somewhat oversized for the infant. This doesn't, however, mean that it was locally made. It may only reflect that the family used what was readily available from the local undertaker.

The wood from both the outer box and the casket were eastern white pine (*Pinus strobus*). This pine has a range covering much of the United States, although it is more common in northern Illinois, typically on well drained, somewhat acidic soils. The wood was highly sought since huge, knot free, boards were the rule rather than the exception (Ling 2003). Once an extremely important lumber species, the white pine was extensively over harvested and one source estimates that its density has declined by more than 80% (Thompson et al. 2006:66).

The nails recovered are all machine cut with square heads. Additional details could not be ascertained without conservation treatments, which were not undertaken. This style was common during the late nineteenth and early twentieth centuries, although wire nails were making significant in-roads. They may be from

either the casket or the outer box and sizes range from 2½ to 3 inches (8-10d). Cut nails, in a 2-inch size, are shown as late as about 1925 in the F.H. Hill Company Funeral Merchandise catalog.

Davidson (1999:58) suggests that casket manufacturers switched, either by choice or economic necessity, from cut to wire nails between 1895 and 1900.

Figure 28. Fabric fragment from the casket exterior.

This does not seem to be demonstrated by this casket (or the others to be discussed below). At least this small sample suggests that cut nails continued into the first third of the twentieth century.

A single fabric tack or brad was also recovered. This may have been associated with either the textiles covering the outside of the casket or probably also found lining the interior. As early as 1869 these were shown in the Sargent & Co. *Illustrated Catalogue and Price List of Hardware* as "Coffin Lining Nails." Both upholstery nails and lining tacks (the latter larger than the former) continue to be illustrated at least as late as ca. 1925 in the F.H. Hill. Co. *Funeral Merchandise* catalog.

A small sample of the covering fabric was preserved by contact with a brass decoration (Figure 28). This reveals that the casket was covered in a coarse cotton fabric (thread count of about 41 per inch) with a distinctly heavier warp (ca. 1 mm) than weft (ca. 0.25 mm). Today this might be described as cotton bump. It is also often called momie (or mummy) cloth – an unbleached, heavy cotton cloth made to imitate the wrapping of Egyptian mummies (Montgomery 2007:298). Momie cloth, in white, cream, and black, was one of the choices offered by the 1902 National Casket Company catalog.

The color of the fabric has been degraded by contact with the metal; however, it is still light, suggesting that it was originally white – a very traditional color for infant caskets.

Although no hinges were identified for the casket, four decorative thumb screws were recovered, one from each corner of the casket. This suggests that the lid was not hinged and simply lifted off.

Although similar overall, the two thumb screws illustrated in Figure 29 appear to represent two different styles. This may suggest that the undertaker used whatever was readily available and generally similar to close the lid. Examination of catalogs did not provide a match to either.

Figure 29. Thumb screws from the casket.

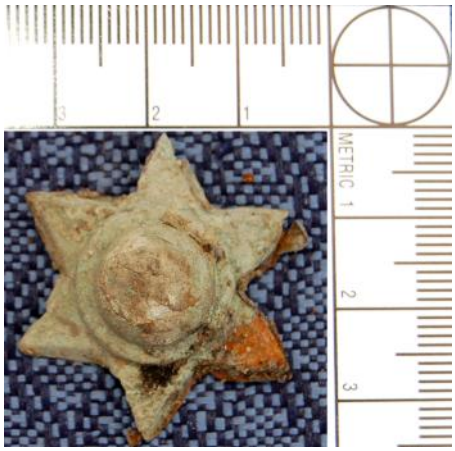


Figure 30. Decorative stud and example from the Hearne Bros. catalog of ca. 1911.

The only other hardware are eight decorative studs that were placed along the edges of the casket. These studs are entirely decorative. The design, a domed, six pointed star is very common, being found in at least six catalogs, dating from 1874 (J.L. Wayne & Son, Cincinnati) through ca. 1911 (Hearne Bros. & Co., Whitakers, NC). Each supplier assigned the design their own number. There was, in addition, a very similar style with flared points that dates from at least 1869 through ca. 1920 (Sargent & Co.). While no prices are associated with the identified catalogs, studs typically sold for $2-3 per gross wholesale. They represented very inexpensive decorative items and were likely added to make a casket less somber.

[redacted]

Clothing Remains

Clothing remains were numerous and well preserved, allowing a good reconstruction of the burial clothing.

Three porcelain buttons and a shell button were found down the center of the chest, reflecting the remains of a shirt. A fourth porcelain button was found at the feet and was probably displaced. The buttons were all similar size (10 to 14 mm in diameter), but the variation (both in size and material) suggests that buttons had been replaced.

One of the metal buttons, a South's (1964) Type 21 4-hole metal covered fiber center measuring 12 mm in diameter, was probably a pants button. The other, 7 mm in diameter but also a Type 21, was likely a cuff button on a jacket. A number of other metal buttons would have been present, but we believe the condensation collected under the glass cover plate likely hastened their deterioration.

Attached to the cuff button was fabric


Figure 31. Metal cuff button with what appears to be adhering wool fabric.

that appears to be a tightly woven wool (Figure 31). This would have been typical of jackets of the period.

The clothing appears typical of what might be described as informal day wear for the time period (Ribeiro and Cumming 1989:198). Its condition also suggests that the clothing was the decedent's and was not acquired from the funeral home. The funeral home suits and wrappers may have appeared too extravagant to the hardy – and likely frugal – German community that [redacted] represented at the turn-of-the-century.

Figure 32. Clothing of the period (from Ribeiro and Cumming 1989).

Casket and Hardware Remains

The wood casket appears to have been square (what was often called vertical in the period catalogs), of wood, and measured about 69 inches in length by 18 inches in width. This is very close to the National Casket Co. 5-9 size (which would have been 20 inches in width) with the differences accounted for by the slumping, deterioration, and collapse of the casket. The wood – like that of [redacted] – has been identified as eastern white pine (*Pinus strobus*). There is no evidence that the casket was cloth covered, although this seems likely for pine. Typically only oak, chestnut, and cedar were finished. In addition, the 1902 National Casket Co. catalog contains 22 pages of "adults covered caskets" and only eight pages of "adults varnished caskets." Clearly there was still a strong preference for covered caskets at the turn of the century.

The casket was found to have glass covering the upper half of the body. This allowed viewing while still isolating the remains. Glass face plates were incorporated into coffins and caskets very early, although none were patented until 1876 and most of these patents focused on frames and closures (Lang 1984:50).

All six of the styles offered in the 1875 Cincinnati Coffin Co. *Wood Coffins & Caskets* catalog included either "half or full French glass."[1] The company's 1882 *Catalogue of Cloth Covered, Wood Finished and Metallic Burial Caskets* continued to offer glass as a standard item. This suggests that the presence of glass was the norm for the last several decades of the nineteenth century. This appears to be supported by Davidson's study of the African American Freedman's Cemetery in Dallas, although he offers no explanation for the trend (Davidson 1999:373-374).

The glass associated with [redacted] casket was very uniform in appearance, exhibiting no distortions or irregularities. The glass thickness was 2.35 mm (0.09 inches). This is fairly thin and it is not surprising that the plate shattered as the casket and outer box began deteriorating.

While the presence of glass in only part of the casket might indicate a half couch design (meaning that the lid was two sectioned, allowing the opening of only the head end for viewing), this does not seem likely given the identification of the brass and iron object shown

[1] "French glass" was a reference to quality: "it will be found, that whilest the French glass gives a clear sharp outline, the English reflects either two or more images in a hazy and imperfect manner" (Ure 1858:927).

in Figure 33. This object is very similar to the "coffin fastener" identified by Davidson (1999:554) and illustrated by U.S. Patent 416,302. That device, patented in 1889, allowed a "sight panel" covering the viewing glass to be easily removed and replaced, without relying on screws "or other harsh grating devices."

Figure 33. Viewing port opening and fastening device.

We have not identified a patent associated with the device found here, but it was apparently mounted on the side of casket, allowing the viewing panel to be opened and closed.

Also associated with either the casket or the outer box were 61 nails. All were heavily corroded, but they all appeared to represent machine cut nails and the sizes ranged from 2½ to 3 inches (8-10d) – the same as observed for the casket or box associated with [redacted] The larger number is likely the result of recovery from both containers.

The casket trimmings, as they were called in the trade, included four cap lifters, six thumb screws, six short bar handles, and two casket plates.

The cap lifters, intended to assist in opening the casket lid, are a two part knob. The center dome is surrounded by a decorative design. The knob is a white metal with a silver plate or wash. The screw shank is iron. While there are similar cap lifters widely available, none matched precisely.

Davidson (1999:339) notes that the presence of cap lifters "signifies that a viewing window was present" since he associated the cap lifter with a convenient mechanism for removing the protective panel. We have no data to dispute this, although we do note their presence in casket photographs where no viewing window is present. They appear to serve a broader function than implied by Davidson, although clearly additional work is necessary.

All of the thumb screws match and consist of a rectangular design, slightly pointed at the top, of iron. Although it is not possible to determine if they were located on the outer box or the casket, their plain design and iron composition appears utilitarian in purpose and suggests association with the outer box.

The six short bar handles are of silver plated or washed white metal. The lugs have a bifurcated arm – an unusual design that is seen in very few catalogs (it is most prevalent in the undated Cleveland Burial Case Co. *Hardware Catalogue No. 7*). The bar itself was wood, probably cloth covered. The arms and lugs have a floral motif; the tips have a scroll motif.

One casket plate, of thin stamped metal with a silver wash, represented a sheaf of wheat and sickle. The plate was attached using ferrous pins at the top and bottom.

This motif, which has its origins in Egyptian mythology, was also popular in

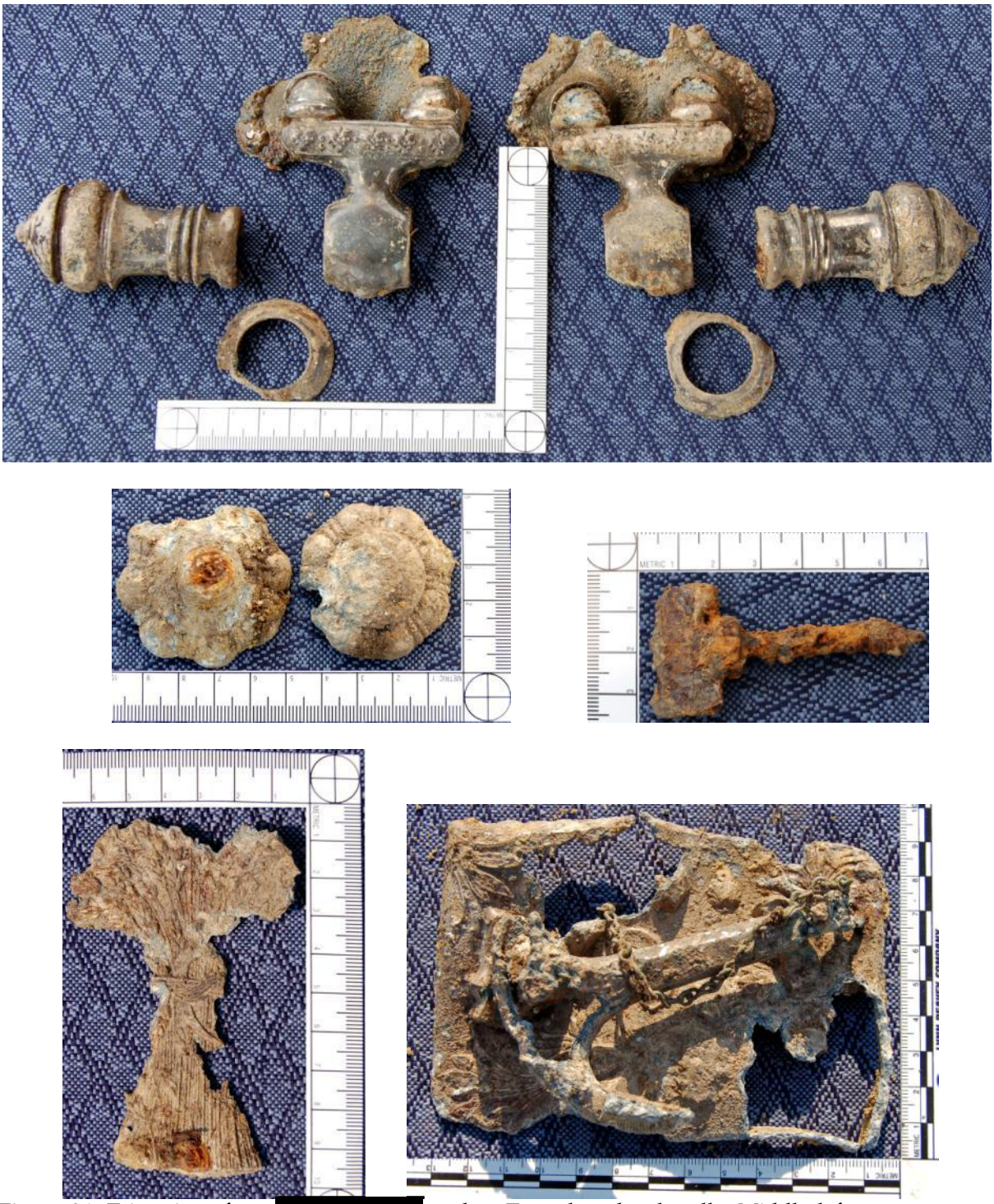


Figure 34. Trimmings from [redacted] casket. Top, short bar handle. Middle left, two part cap lifter. Middle right, thumb screw. Lower left, wheat and sickle casket plate. Lower right, anchor casket plate.

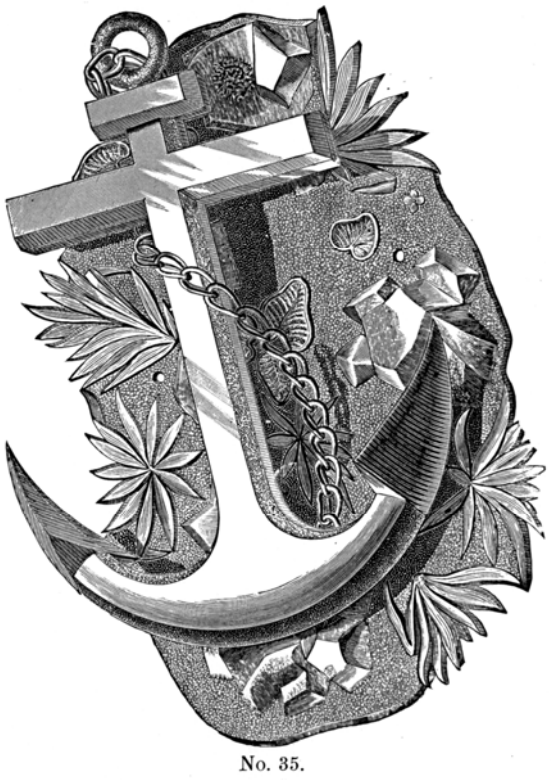


Figure 35. Example of a similar anchor plate from Cleveland Burial Case Co.

Christianity, especially during the nineteenth century. With the sickle it represents the Devine harvest, the bounty of God, and end of a fruitful life [2] (Hacker 2001:38).

Although this motif is found in a number of catalogs from about 1890 through 1910, none provides a direct match to the specimen from [redacted] casket.

The last trimming item was a casket plate consisting of an anchor with brass chain sitting on a plate containing a variety of motifs (wheat, rocks, floral). Being popular about the same time as the wheat motif, the anchor also traces its meaning back to early Christianity where it was a symbol of hope and steadfastness. Hebrews 6:19, for example, "Which hope we have as an anchor of the soul, both sure and steadfast" (Hacker 2001:3).

This symbol, however, has been found in relatively few catalogs. Figure 35 provides the closest match, from Cleveland Burial Case Co. *Hardware Catalogue No. 7*. Although the format is different, other aspects are nearly identical, including the loose brass chain and how the anchor is freely resting on a rock motif.

[redacted]

Clothing Remains

Clothing remains include three metal buttons, classified as South's (1964) Type 24 that would have been cloth covered. The two larger buttons, measuring 20 mm in diameter, were found at the chest and right cuff. These suggest that [redacted] was wearing a single breasted coat. The third button, measuring 13 mm, was found at the right knee. We believe that this button was present on a pair of boy's short pants.

Figure 36. Metal buttons recovered from the burial.

The outfit is typical of what was known as a boy's two-piece knee pants suit. These were worn by boys about 8 to 15 years old during this time period with the transition to long pants being seen as indicating adulthood. These pants had button closures; the zipper would not be

[2] Matthew 13:30 notes, "Let both grow until the harvest: and in the time of harvest I will say to the reapers, Gather ye together first the tares [noxious weeds] and bind them in bundles to burn them: but gather the wheat into my barn." John 12:24, "Verily, verily, I say unto you, Except a corn [grain] of wheat fall into the ground and die it abideth alone: but if it die, it bringeth forth much fruit."

Figure 37. Example of clothing probably worn by [redacted] based on the clothing remains. Image to the left from the 1902 National Casket Co. catalog. Image to the right from the 1902 Sears catalog.

found on clothing other than overshoes for a number of years. The 1902 Sears catalog illustrates a number of such boys' suits with short pants ranging from just under $2 to $3.50. Similar suits are shown in the 1902 National Casket Co. catalog. Knickers, a similar style, were also common and were originally intended to be buckled or buttoned just above the knee. A good museum example of this type of boy's clothing (showing button locations) can be found at http://www.wisconsinhistory.org/museum/collections/online/image.cfm?ImageFile=/VoyagerImages/Z000/Z00021/Z0002111.jpg&TableKey=OBJECT:60819. It wasn't until the 1940s that long pants became common for adolescents.

The only other clothing remains were seven shoe nails and a single small boot button. The button was black porcelain and measured 5 mm in diameter. These remains are indicative of men's button-up shoes. It is likely that only one button was recovered (such shoes typically have six) because the fill was not being screened.

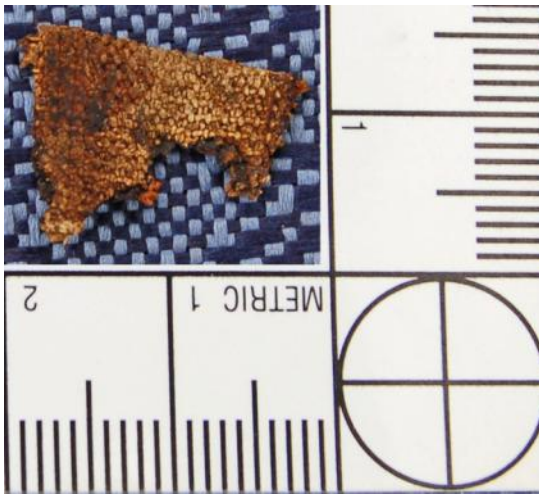


Figure 38. Fragment of interior casket lining.

Casket and Hardware Remains

The excavations found that the stain for the box measured about 79 by 30 inches, while the casket is thought to have measured about 75 by 26 inches. This is roughly equivalent to a 6-3 casket, although most catalogs suggest these were only about 21 inches in width. The

Figure 39. Viewing port opening and fastening device.

disparity may be the result of collapse and distortion. This is a fairly long casket, with most catalogs providing offerings only up to 6-6 (and many do not list sizes above 6-3).

Figure 40. Thumbscrews associated with the [redacted] casket.

This casket, like that for [redacted] was fitted with a viewing plate over the upper half of the body. We suspect that the exterior was covered since the wood was identified as eastern white pine (*Pinus strobus*). The collection included 44 machine cut nails varying in length from 2½ to 3 inches (8-10d). No wire nails were identified and no lining tacks were preserved.

A sample of the interior lining was preserved by contact with the brass lid support. The material has a thread count of 62 threads per inch. Both the warp and weft consist of large, distinct threads, taking on a linen weave texture, although it is likely a cotton. This material appears rather course – most caskets were lined in silk, satin, crepe d'chine, brocade, or similar material. What is preserved may be a liner under the visible fabric, perhaps providing bulk or protecting the lining from the rough wood.

The viewing port closure is identical to that found associated with [redacted] casket and is shown in Figure 39.

Also identical to the fittings on Mess' casket were four cap lifters, spaced evenly down the centerline of the casket, and seven thumbscrews, evenly spaced round the periphery of the casket (there was likely an eighth, but it was not recovered).

At the center of the casket was a decorative plate of white metal. Although typically called a name plate, these might also have pre-stamped or engraved wording, such as "Son," or "Rest in Peace." This example was too deteriorated to allow the wording to be recognized.

The identical plate has been found as early as 1905 in the Chattanooga Coffin & Casket Co. *Illustrated Catalogue of Undertakers' Hardware*. The plate could be engraved with "At

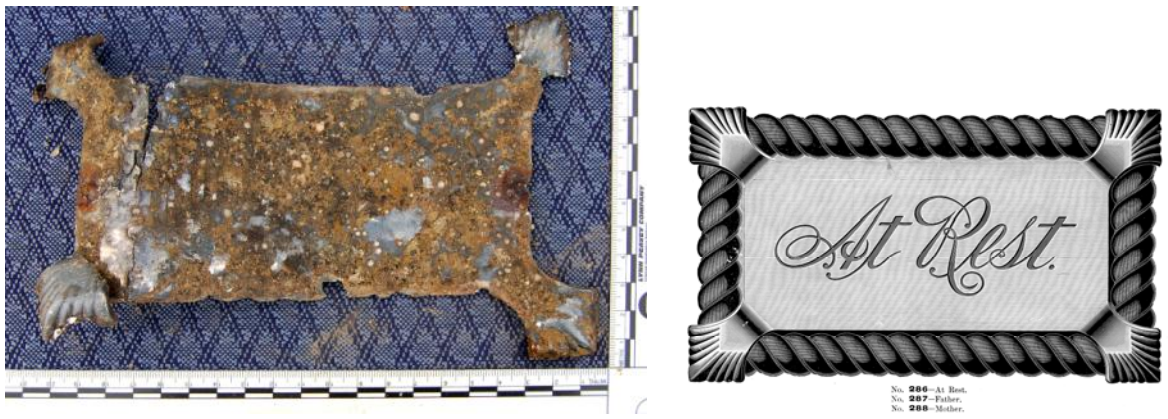


Figure 41. Casket plate and example from the 1912 Embalming Burial Case Co. catalog.


Figure 42. Lily motif compared to the design from the Embalming Burial Case Co. (the leaves were not attached, accounting for the different appearance).

Rest," "Rest in Peace," "Father," or "Mother," and was surrounded with a satin rope border. This border is today missing, resulting in the unusual corners. The plate is shown in the ca. 1911 Hearne Bros. & Co. (Whitakers, NC) catalog. The same plate is shown in the 1912 *Casket Hardware and General Sundries of Undertakers' Supplies* catalog of the Embalming Burial Case Co. (Burlington, Iowa). The plate is also found in an undated catalog of the Cleveland Burial Case Co. Finally, a similar but not identical plate is still found in the ca. 1920 Sargent & Co. *Casket Hardware* catalog.

Figure 43. Second flower found on [redacted] casket.

Two additional decorative items were found, one at the chest and other at the knees. These were white metal lilies of two different designs. The first, recognized by its clearly defined pistil, two leaves, and bow, is found in a number of different catalogs, including the 1912 Embalming Burial Case Co. and the ca. 1920 Sargent Co. examples. This is shown in Figure 42, although the leaf arrangement in the photo is incorrect (the leaves had come off during excavation and are incorrectly placed in the photo). The calla lily typically symbolizes fidelity and marriage (Hacker 2001:23). Its use in this case is less well understood.

The other flower is perhaps a lily, although it is less distinct. It also is not found in any of the catalogs.

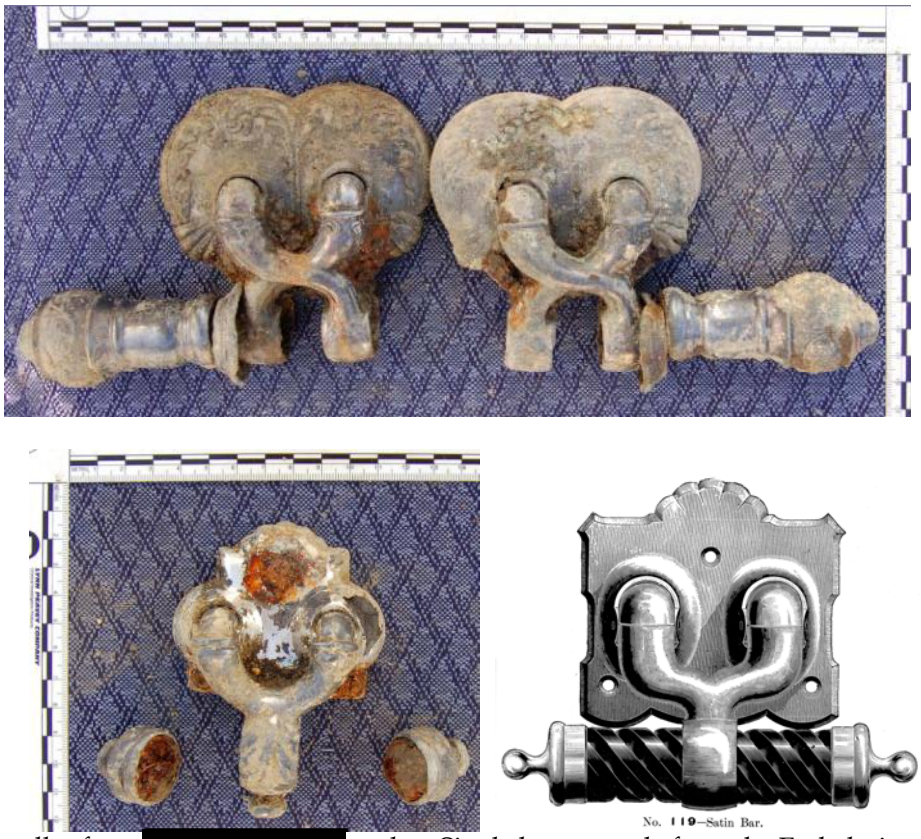


Figure 44. Handles from [redacted] casket. Single bar example from the Embalming Burial Case Co. catalog of 1912.

The final items are six short bar handles, three to a side. These handles are similar to those from [redacted] in that the lugs have a bifurcated arm. These handles, however, have X-shaped arms. They are of heavy white metal with a silver plate or wash. The handles have a mold number, 980, on their reverse. Unfortunately, even with this number the handles could not be identified in any of the available catalogs.

In addition to the handles along the long sides of the casket, two smaller handles were found at either end. These have a single lug and arm. While the arm does not cross over itself, as in the larger examples, the motif and patterning is otherwise identical. There is no question that these single arm handles were part of the complete set.

Again no direct matches could be found; however, the Embalming Burial Case Co. does illustrate a very similar example. It is, in fact, the only single arm specimen that could be found in any of the catalogs available.

[redacted]

Clothing Remains

The remains of [redacted] an infant buried in 1909, contained only three clothing items – three two-hole shell buttons with concave centers (South's Type 22; South 1964). Preservation was variable, but they appear to have measured about 8.5 mm. The buttons were found in the neck area, in the area of chest, and at the feet.

These buttons were likely associated with an infant's robe – a common clothing item

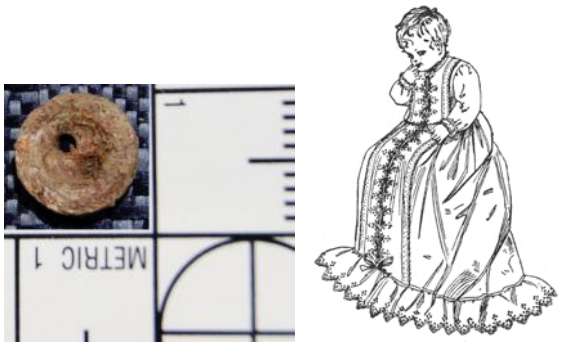


Figure 45. Shell button and example of infant's robe (Sears, 1908).

of the period. The 1908 Sears catalog illustrates several sets of infant clothes focused around cambric robes, trimmed with embroidery on the front and bottom. While undertakers' catalogs often illustrate examples of robes and clothing for men, women, boys, and girls, infants' clothing is noticeably absent, suggesting that there was little demand (and hence, little profit). This is supported by the Sears catalog – entire infant clothing sets could be obtained for as little as $1.15. It seems likely that most infants would be buried in the clothing they wore during life or would be wrapped for burial, as seen in the case of [redacted] previously discussed.

Figure 46.Thumbscrews from the outer box on left. On the right is a "Steel Wire Box Screw" from the ca. 1920 Sargent & Co. *Casket Hardware* catalog.

Casket and Hardware Remains

The casket stain for [redacted] a 2½ month old infant, measured about 31 by 14 inches. The length probably represents a 2-6 casket that would normally have a width of about 10½ inches. Thus, the stain identified archaeologically probably is somewhat distorted by ground pressure and collapse. The wood recovered from both the casket and the outer box, like the other specimens examined, is eastern white pine (*Pinus strobus*). A rather large assemblage of nails was preserved, with 77 specimens recovered from the casket and outer box. All were machine cut and sizes varied from 2½ to 3 inches (8-10d). As with the other removals, no evidence of wire nails was found.

This burial did, however, clearly indicate the presence of four thumbscrews associated with the outer box. These devices were found at each of the four corners. However, unlike the other thumbscrews found in our work at St. Johannes, these were clearly utilitarian. While similar screws are found in the 1912 Embalming Burial Case catalog, the only perfect match is from the ca. 1920 Sargent & Co. and the ca. 1925 F.H. Hill Co. catalogs. Thus, while we are uncertain when its use began, it was still available to firms into the mid-1920s.

The other hardware includes two cap lifters, placed along the center of the casket; one casket plate, placed in the center of the casket; four short bar handles, two on each side; and two brass butt hinges. These items are illustrated in Figure 47. Unfortunately, none of them could be identified in any of the hardware

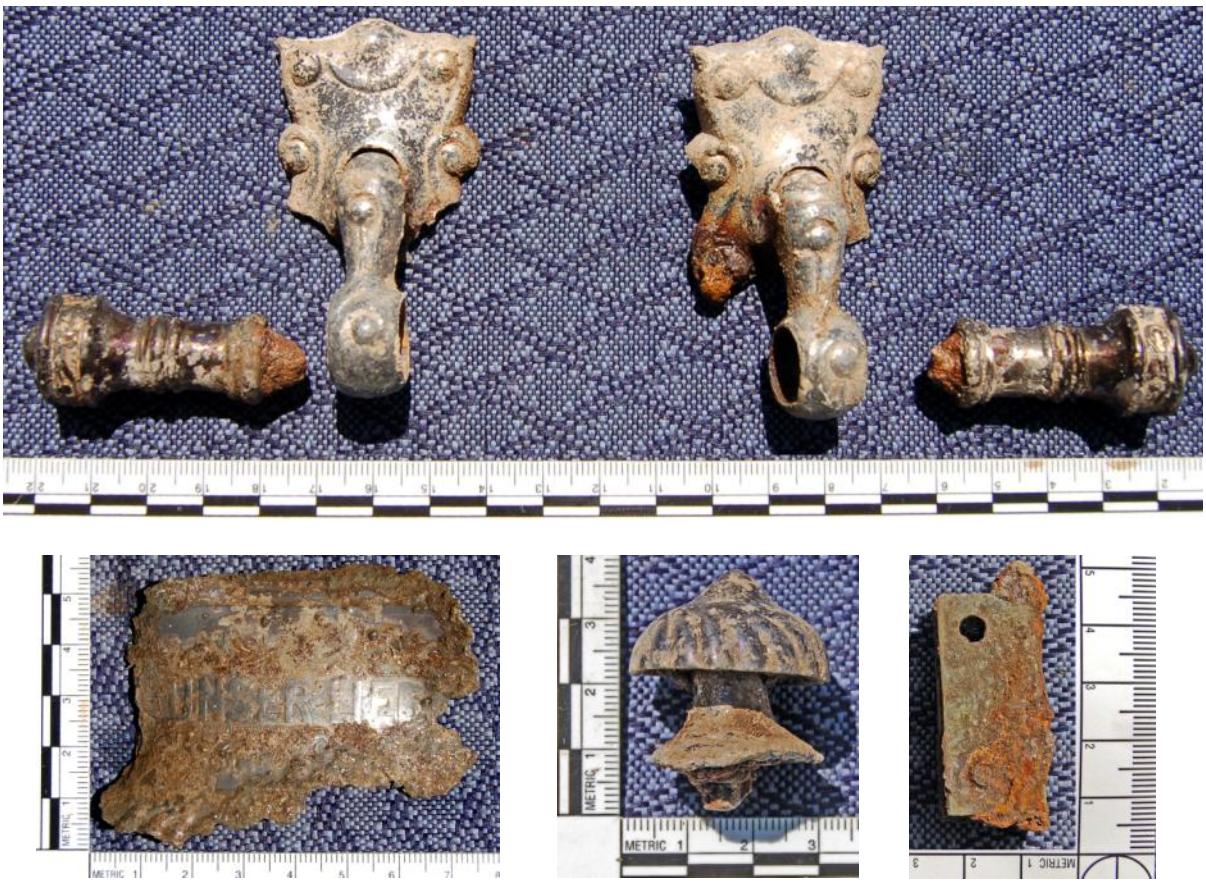


Figure 47. Casket hardware from the grave of [redacted] At the top is the short bar handle. The bottom row illustrates the casket plate, cap lifter, and brass butt hinge.

catalogs available to us (with the exception of the hinges, which are a common cabinetry item).

The casket plate is worth brief mention since it is inscribed "Unser Liebe," or "Our Darling" in German. Relatively few of the catalogs provide plates with inscriptions in languages other than English. It is, however, likely that many such items were available in the study area, given the large proportion of German speakers.

A number of similar cap lifters were found, but all had the decorative swirl going from the right to the left (the examples from this casket have the swirl design moving from the left to the right). This subtle difference may reflect an effort to avoid a patent infringement – slight modifications such as this were common as competitors copied designs.

This is the only burial for which Geils funeral records were available. The 1909 retail cost of the funeral was $63 -- $1,440 in 2007$. The casket (and its trimmings) was priced at $40 ($912 in 2007$), representing nearly two-thirds of the total cost. The document also confirms that an outer box was used, at a cost of $3 ($68 in 2007$).

Summary

The clothing items represented in the collections appear consistent with clothing worn during life. One example of this is the button replacement on the shirt worn by [redacted]

Table 2.
Caskets and Trimmings from St. Johannes Cemetery

Burial & Date	Outer Box	Casket	Viewing Plate	Viewing Plate Latch	Double Lug Short Bar Handles	Single Lug Short Bar Handles	Cap Lifters	Thumb Screws	Ornaments	Hinges	Studs	Casket Plates	Retail Coffin [redacted]
[redacted] 1928	1	1	-	-	-	-	-	-	-	-	8	-	-
[redacted] 1902	1	1	1	1	6	-	4	6	2	-	-	-	-
[redacted] 1903	1	1	1	1	6	2	4	8	2	-	-	1	-
[redacted] 1909	1	1	-	-	4	-	2	4	-	2	-	1	$40 00

There is no evidence that the stereotypical self-dependent and frugal Germans purchased clothing from the funeral home.

On the other hand, while the Germans may have had a closed community, as emphasized by their speaking German well into the twentieth century, their clothing does not appear parochial, but rather appears to reflect the mainstream of American society.

Of course, these observations are based on an extremely small sample – four individuals – and one that does not reflect a reasonable cross section of their society – there are, for example, no women.

The collection also indicates that researchers can anticipate a very high recovery rate for clothing items and that the graves present excellent preservation. Even fabrics were routinely recovered from the excavations.

In general, good recovery was achieved using only careful excavation techniques. While there was certainly some loss in material, the time allotted did not allow more careful screening. Of course, if screening is employed, one can anticipate nearly complete recovery of preserved clothing items.

Table 1 itemizes the caskets and hardware present from the four burials.

Efforts have been made in the past to calculate wholesale hardware costs. For example, Davidson (2004) has spent considerable effort identifying specific hardware and finding period price lists allowing per unit wholesale prices to be identified. This is a rather difficult effort since relatively few catalogs exist and few of those that can be found actually include price lists. In the current work, much of the hardware could not be identified in catalogs – indicating that we lack catalogs from the manufactures used by Chicago area funeral homes.

Looking at the average prices proposed by Davidson, it is clear that hardware was relatively inexpensive. For example, the average price of handles was only .30¢ apiece; thumb screws were only .03¢ each; the average for cap lifters was .14¢; plates were .32¢; and ornaments were only .15¢. The major wholesale cost, of course was the casket itself.

For [redacted] buried in 1928, we identified three period price lists, Des Moines Casket Co. (1922), Norwood Casket Co. (1927), and Milwaukee Casket Co. (1932). The average cost for all children's 2-6 caskets is $17.93. This, however, seems entirely too expensive for the very plain box we encountered. If we exclude all caskets with wholesale prices over $10, the average price drops to $7.16. The average price for an outer box during this period was $3.50. The eight studs would have added an additional .16¢. Thus, the total wholesale cost for this casket and box was likely around $10.82 or $130 in 2007$.

We were able to identify two catalogs to provide prices for the caskets of [redacted] and [redacted] Constantine Casket Co. (ca. 1900) and National Casket Co (ca. 1902). The average cost of a similar casket was $20.60. The National Casket Co. noted that adding half-

length plain plate glass would incur an additional charge of $3.00. Thus, we can estimate that these caskets cost about $23.60. The average cost of an outer box was $2.75.

Thus, the casket for [redacted] may have cost, wholesale, about $29.19 ($691 in 2007$). The casket for [redacted] is estimated to have cost $30.17 ($688 in 2007$).

The same catalogs are used for the calculation of casket costs for [redacted] An average cost is $7.19 for the casket and $1.25 for the outer box. Trimming would bring the cost to about $10.36. The $40 retail cost represents a mark-up of 386%.

While this may sound excessive, it actually represents a relatively low margin, at least based on Dowd's observations:

> Of the 537 undertakers licensed in Chicago, half could be spared, for many neighborhood undertakers have no stock in trade, but take their customers to the wholesale house to select a coffin there. It was told to me that these private professionals demand that the sales prices be placed at five times the wholesale rates made to them. This is the minimum, while on some jobs the undertaker's retail price on a casket is tenfold the wholesale cost to him (Dowd 1921:15).

Regardless of mark-up the casket prices, the average per capita farm family income for the first year the statistic was calculated, 1929, was only $951 (Anonymous 1975: G306-318). For 1900, one estimate is placed at $438 (http://usa.usembassy.de/etexts/his/e_prices1.htm). Thus, the $40 retail casket cost for [redacted] represents over 4% of the family's total income in 1929 and over 9% in 1900. So while the estimated retail costs of the caskets from St. Johannes appear very modest, they represented a very large proportion of the family's household income.

SKELETAL REMAINS

[redacted] **(Stillborn, d. 1920)**

The excavation was of a male infant, reported by family members to have been a stillborn buried in 1920. Coffin materials (discussed earlier) were revealed to have collapsed through time with deterioration and soil weight being key factors. At birth, an infant has 450 bone centers, which will unite through growth to become the 206 bones of an adult. Because an infant's bones are largely cartilaginous with little ossification, there is a greater likelihood of post-mortem degradation (Baker et.al.2005).

As a result, after 89 years of burial, there were very few fragments of bone in this burial. There were five small fragments of skull, crushed portions of the parietal, and three fragments of the occipital (Figure 48). The fragments were extremely degraded and soft; the parietal thickness measured about 0.55 mm. No other bone fragments were found.

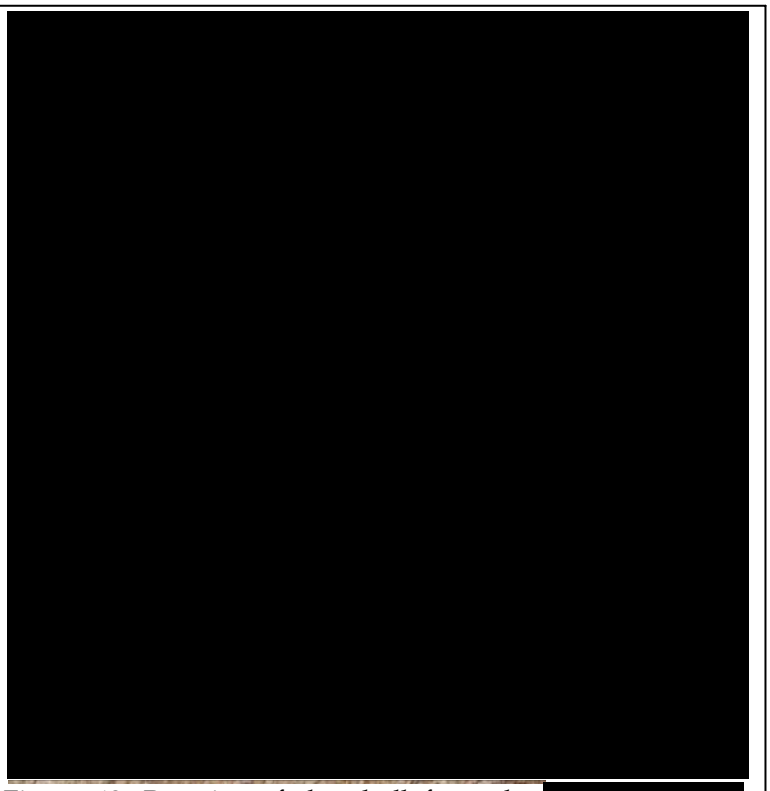


Figure 48. Remains of the skull from the [redacted] burial. North is at the top.

[redacted] **(1821 – 1902)**

The excavation was of an adult white male, [redacted] who died at the age of 81. The coffin materials had collapsed from soil weight and deterioration. The soil weight contributed to some post-mortem bone fractures, largely in the skull and pelvic area. After 107 years of burial, the skeletal material was in good condition.

The skull showed that all of the cranial and maxillary sutures were completely obliterated, indicating an age of over 50 - 80 years (White et al. 2005: 371), corroborating the tombstone and family information. Weight of the soil on the skull caused post-mortem fractures of the parietal, sphenoid, temporal, nasal, lacrimal, ethmoid, zygomatic and maxilla bones (Figure 49); as these are structurally the weakest bones of the skull, such fractures are to be expected (Aufderheide et al. 1998: 17). This individual exhibited a square chin, and robust jaw and forehead.

Measurements taken of the skull include: maximum length, 18.7cm; maximum breadth, 15.6cm; and maximum height, 12.2cm. A cranial index of 83.42 indicates a broad or round headed skull (range

Figure 49. [redacted] cranium; note crushed bone, resulting from weight of the soil.

of 80.00 – 84.99) (Bass 1995: 70). Using the cranial length-height index a score of 65.24 indicates a low skull (range of X – 69.99) (Bass 1995: 75).

Study of the dentition showed that there were only 12 of the expected 28 to 32 adult teeth. If the individual had third molars (wisdom teeth) during his life, there is no longer any evidence of them. While the third molar is the most consistently congenitally absent molar (Steele et al.1988: 91), it was impossible in this individual to tell by visual inspection whether the third molars erupted and were lost to decay or injury or whether the individual never had these teeth. All other molars and 4 of 8 premolars had been lost ante-mortem, as evidenced by the complete alveolar resorption: the maxilla and mandible bones have remodeled where the teeth were lost, creating a smooth line of bone. This remodeling process takes at least 10 years (Ortner et al. 1981: 443)

In the maxilla, only three teeth remain: the right first incisor, right first premolar, and left canine (Figure 50). The occlusal surfaces of the right first incisor and right first premolar have been worn flat, probably from depending on them for chewing of food. The incisor is actually worn down to below the gum line. On the Smith scale of 1 to 8, these teeth have reached a stage 5, exhibiting a large dentin area with the enamel rim still complete (Buikstra et al. 1994:52). The incisor and canine had a small amount of calculus. The left canine is a genetic anomaly, a peg shaped tooth that has erupted parallel to the bone, so that in life, the tooth would have extended at a perpendicular angle from the mouth. The peg shaped tooth is one of the most common genetic anomalies, and frequently occurs in incisors (Massler et al. 1958: Plate 10). The tooth also suffered a disturbance in eruption, causing it to migrate during development, so that it emerged at an angle.

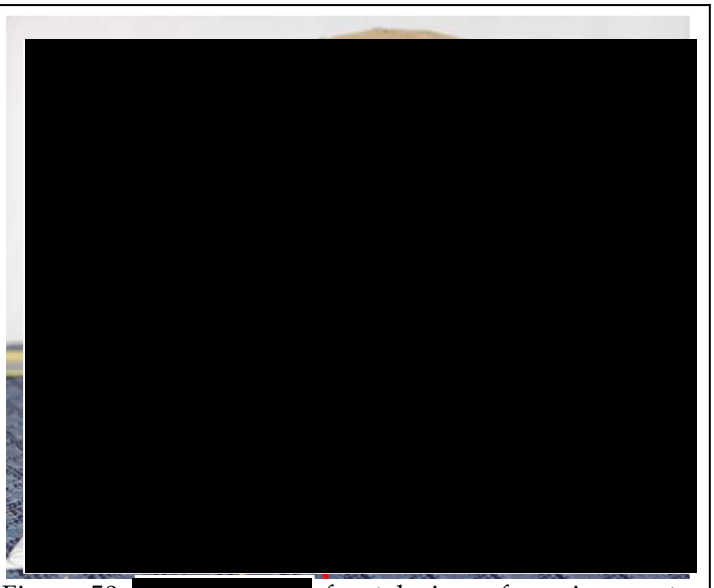


Figure 50. [redacted] frontal view of cranium; note protruding left canine and worn down left incisor.

Although there is no known cause for this, it is also common in upper incisors and canines (Massler et al. 1958: Plate 17). The occlusal surface has worn down to a stage 5, possibly to constant rubbing against the labial area.

Figure 51. [redacted] mandible.

In the mandible, there are nine teeth: four incisors, two canines, the two right premolars, and the left first premolar (Figure 51). The occlusal surface of each of these teeth has been worn flat, probably from depending on them for chewing of food (Aufderheide et al. 1998: 399). The right second incisor and right canine are worn further down than the surrounding teeth, and at an angle, probably indicative of gripping a pipe between these teeth and the associated gum line of the maxilla. The diffuse brown staining of the teeth also support this theory (Ortner et al. 1985: 456). On the Smith scale of 1 to 8, all teeth have reached a stage 5 in tooth wear, exhibiting a large dentin area with the enamel rim still complete (Buikstra et al. 1994:52). All teeth in the mandible had a moderate amount of calculus, or mineralized plaque, accumulation along the gum line (0.5 – 0.8mm) thickness, an indicator of periodontal disease (Buikstra et al. 1994: 56). In addition, the interstitial areas of the left canine and left premolar have large caries, extending into the roots of the teeth. The left second incisor also had an interstitial caries, extending into the pulp. These are the only caries found, but are so extensive that the individual undoubtedly felt pain.

All vertebrae were present and in place, but all dorsal areas were degraded due to contact with soil, and some ventral areas degraded due to contact with the viewing glass and metal decoration of the coffin, which collapsed upon the skeleton and pressed on to the surface of the bone. The lumbar vertebrae were heavily lipped with osteoarthritis, and L-2, 3, 4, and 5 were also deformed in shape. L-2 is slightly wedge-shaped, the narrow side to the left; L-3 is wedge-shaped, narrow side to the left; L-4 and 5 are wedge-shaped, narrow side to the right (Figure 52). Because the dorsal area of the vertebrae were badly degraded, it was not possible to identify any other degeneration of this area of the spine. However, given the amount of crushing and degeneration shown in the

Figure 52. [redacted] note curvature of lumbar vertebrae 2 through 5.

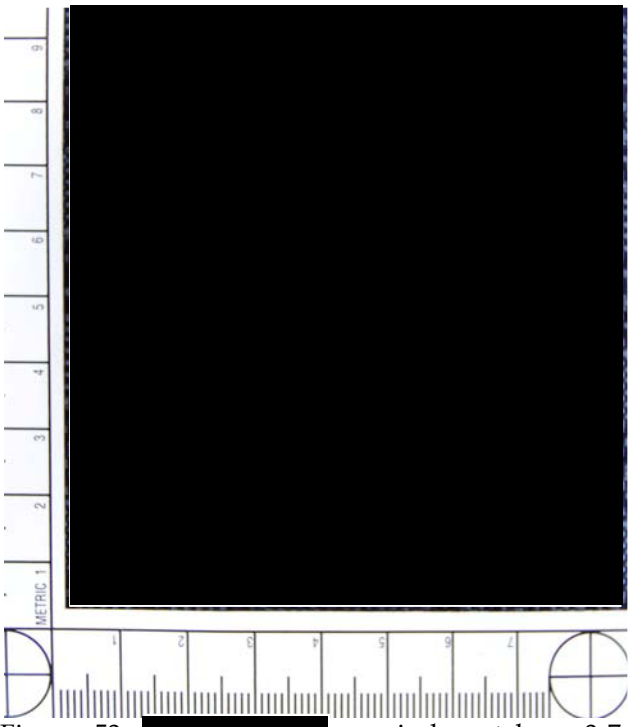


Figure 53. [redacted] cervical vertebrae 3-7, showing compression and lipping.

lumbar vertebrae, it is probable that this is degenerative osteoarthritis, the result of mechanical fatigue either from trauma or continued physical stresses (Aufderheide et al. 1998:93; Ortner et al. 1985: 419). It is also likely that this curvature caused [redacted] to lean heavily to the left when sitting or walking.

Other than mild osteoarthritic lipping, the thoracic vertebrae appeared normal. The cervical vertebrae, however, were so seriously compressed and lipped, that it is unlikely that prior to his death, [redacted] could easily turn his neck from side to side (Figure 53). These vertebrae are so severely compromised, in comparison with the thoracic and lumbar vertebrae, that it is highly likely that this is the result of trauma many years prior to his death (Ortner et al. 1985: 81; Mann et al. 2005: 16)).

The sternum was almost completely degraded, due to contact with the viewing glass of the coffin. The ribs were crushed post-mortem in the grave, a common occurrence (Aufderheide et al. 1998:17), and the fragments were further degraded by contact with the soil. The sternal end of left fifth rib was identified, and is typical of a male over the age of over 65 years (Figure 54). The rim has become thin, with irregular edges marked with bony projections; the pit is U-shaped, with a porous appearance, lacking bony projections (Schwartz 2007: 247).

The innominate, or pelvis bone, was broken post-mortem, the right and left ilium cracked, both inferior pubic rami broken by the weight of the soil, and the dorsal portions largely degraded. The auricular surfaces exhibited moderate osteoarthritic lipping, particularly on the right side.

Both clavicles were present and fused. Length and middle circumference of the right and left clavicles were 125mm/50mm and 133mm/50mm respectively. The left clavicle evidenced marked musculature and significant pitting and contour change on the distal end. The pitting and contour indicates the presence of osteoarthritis, although it is unusual to find

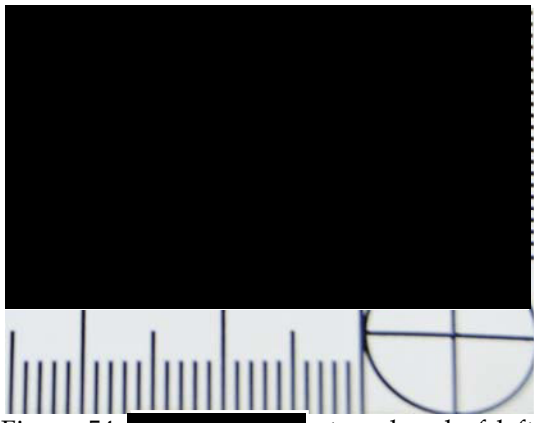


Figure 54. [redacted] sternal end of left 5th rib.

osteoarthritis on the clavicle (Cox et al. 2000:169). This probably does not represent handedness, but is more likely an indicator of the type of farm work [redacted] did during his life; for example, a study of workers in England showed that those who carried sacks on the left

shoulder (i.e. millers) developed asymmetrical degenerative arthritis (Cox et al. 2000:310)

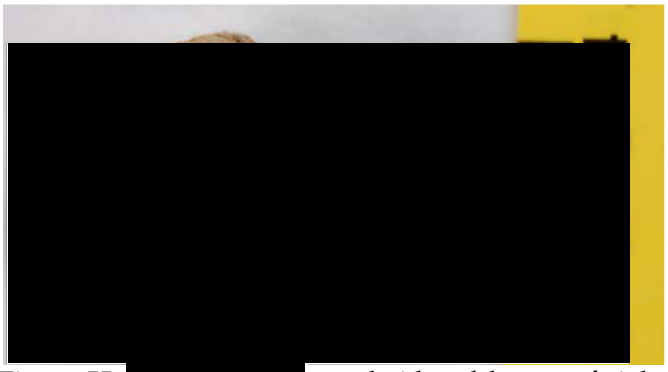


Figure 55. [redacted] scaphoid and lunate of right hand showing burnishing facets that articulate with the radius.

Both scapulae were present, but badly degraded and fragmented due to contact with the soil. No measurements were taken.

The humeri were present and in place. The lengths of the right and left humerus were 330mm and 328mm, respectively. Both exhibited distinct musculature, as well as moderate osteoarthritic lipping at proximal ends, and minor lipping at the distal ends. The radius and ulna of both sides were present, but too fragile to measure. Both exhibited distinct musculature, with minor osteoarthritic lipping of the proximal ends.

The carpal (wrist), metacarpal (hand) and phalanx (finger) bones of both sides were present, complete, and in place, lying across the upper portion of the femurs. Moderate osteoarthritic lipping was noted in the phalanges and metacarpals, not unusual for an individual of this age. However, among the carpal bones, the scaphoid and lunate exhibited highly burnished facets that articulate with the radius (Figure 55). Eburnation is a polished effect on an articular, or joint, surface, caused by the complete destruction of the cartilage, resulting in bone on bone contact during use of the joint. This is a feature of osteoarthritis, which can be caused by age, genetic disposition, unusual use, or biomechanical alteration (reaction to fracture or other injury). No research was found on the specific occupational or injury causes of this feature of osteoarthritis to the wrist.

The femora were present and in place; the lengths and midshaft circumference of the right and left femur were 450/95mm and 459/102mm respectively, making the right femur 9mm (0.35 inch) shorter and 7mm (0.27 inch) narrower (and less robust) than the left. While both femoral heads showed moderate osteoarthritic lipping, the necks of both were strong and intact. The distal end of the right femur had osteoarthritic lipping, and burnishing of the patellar articular surface. Both left and right medial epicondyle had crumbled, making measurement impossible

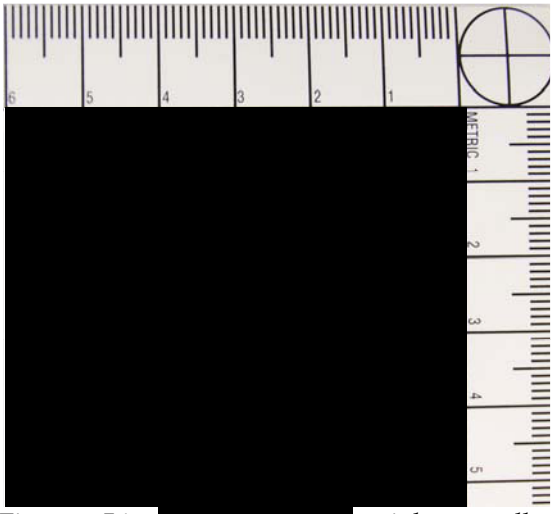


Figure 56. [redacted] right patella, posterior view, burnished medial and lateral articular facets.

The patellae were present, although they had each slid laterally. The left patella was unremarkable, while the right patella was burnished on the medial and lateral articular facets (Figure 56). As noted above, eburnation is a feature of osteoarthritis, caused by the complete destruction of the cartilage, resulting in bone on bone contact during use of the joint.

In this case, while [redacted] was certainly an older man, the eburnation of only one patella leads to the theory that it was the result of either unusual use or injury.

The right and left tibia were present and in place. Their respective lengths were 368mm and 369mm. Both showed robust musculature as well as osteoarthritic lipping at both proximal and distal ends. The left and right fibulae were present, but lay below the tibias, and were highly deteriorated, making measurements and observations impossible.

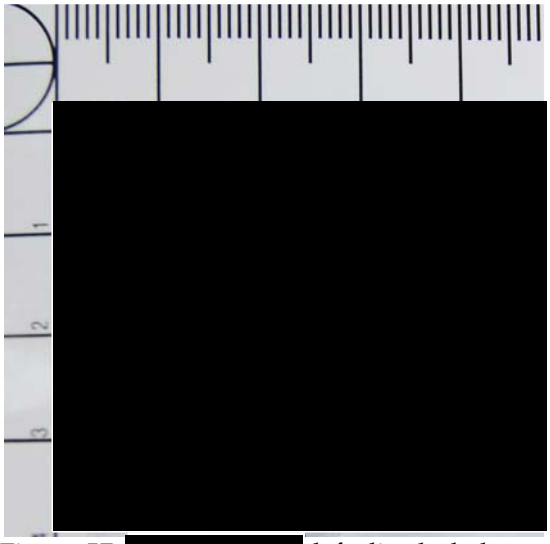


Figure 57. [redacted] left distal phalange with toenail.

The tarsals (ankle), metatarsals (foot) and phalanges (toes) of both sides were present, and in place. The only missing bone was the fifth distal phalanx. There was nothing unusual about these bones, except for the presence of the intact toenail on the left distal phalange (big toe) (Figure 57).

In summary, [redacted] was an 81 year old white male who died in 1902, probably from natural causes. His stature, based on humerus, femur and tibia lengths, was probably between 5′6¼ to 5′7¾″ (168.5 – 172.0 cm) (Ubelaker 1989:145). Based on skull measurements, he would have had a round head and low skull. His smile would have been distinctive, with a canine protruding from his upper left lip, worn down front teeth, possibly clenching a pipe on right side, and a gaunt appearance to his cheeks, the result of 16 missing teeth. His gait may also have been distinctive, with a stiff neck, a torso leaning to left side, and a limp, favoring the right leg. He may have been in some pain, with arthritic joints, particularly the right knee and wrist, and deep cavities in the left lower teeth. The 1870, 1880, and 1900 federal census indicate that he was a farmer, which would explain the overuse and subsequent osteoarthritis found in his joints.

[redacted] (1888 – 1903)

The excavation was of a male adolescent, [redacted] who died at the age of 15 after a fall from a windmill; family history reports that he died of head wounds several days after the accident. Again, the coffin materials were collapsed from soil weight and deterioration. The soil weight also contributed to post-mortem bone fractures. After 103 years of burial, however, the skeletal material was in otherwise good condition.

The cranium showed that the coronal and sagital sutures were united, but not fused, verifying the age of [redacted] as under 17 years (White et al. 2005:371). There were breaks on the left and right of the frontal bone, one break in the left parietal and 3 breaks in the right parietal bones; whether these were peri-mortem (caused by the fall) or post-mortem (caused by weight of soil) was impossible to determine in the time allowed. The temporal bones and all facial bones appear to have been crushed and broken post-mortem (Figure 58). Due to the contact with the soil, degradation of the other cranial bones prohibited further examination.

The mandible was broken on the right side, below the second premolar. The mandible continued to break as it was removed from the soil; all of these breaks appear to be post-

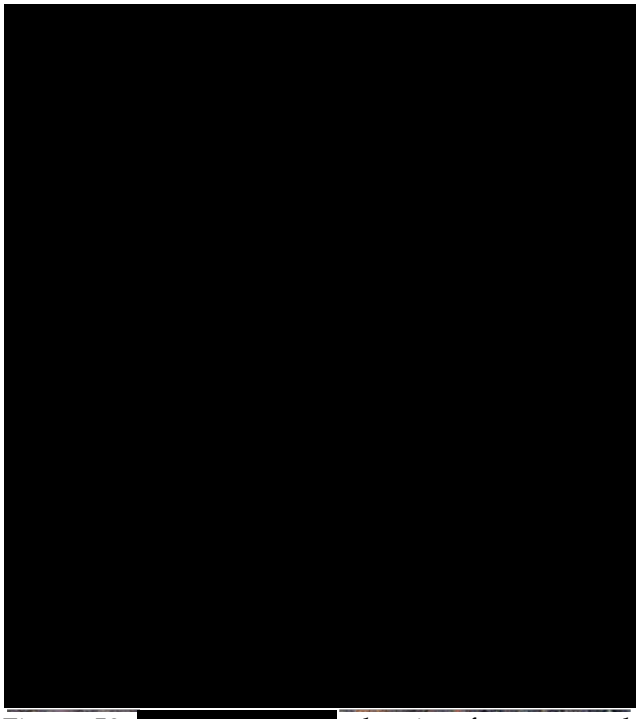


Figure 58. [redacted] showing fractures and crushed areas of skull.

mortem, caused by bone degradation and soil weight.

Dentition provided the most information. All 28 permanent teeth expected for a 15 year old were present and normal in appearance; there was no evidence of third molars (wisdom teeth), which appear in males between the ages of 16 and 27 years (Steele et al. 1988: 75). The canines and incisors of the maxilla were present, but no longer placed in the bone, as it had been crushed along with the other face bones. The upper right canine was not found in the maxilla, but apparently was lost peri-mortem, as it was discovered in the area of the burial corresponding to his left pants pocket.

All teeth showed evidence of calculus, or mineralized plaque, accumulation along the gum line (0.3 - 0.5 mm thickness), an indicator of impending periodontal disease (Buikstra et al. 1994: 56). The upper right central, upper left lateral and lower left central incisors were worn flat on the occlusal surfaces, possibly from clenching a pipe or other object between his teeth (Schwartz 2007: 250). On the Smith scale of 1 to 8, these teeth have reached a stage 3, exhibiting a distinct dentin line (Buikstra et al. 1994:52). As there was overall minor brown staining on the surface of these and the surrounding incisors and canines, often indicative of nicotine use (Ortner et al. 1981: 456), the possibility of [redacted] smoking a pipe is conceivable. There was no evidence of wear on any of the other teeth. However, there were areas of significant tooth decay on four teeth: on the occlusal surface of the upper left first molar, the dorsal interstitial surface of the upper right second premolar, and interstitial surfaces of the lower right first and second molars.

Caries appearing at this age are not unusual; the highest caries activity in permanent teeth generally occurs between 12 and 18 years of age (Massler 1958: Plate 18). Unfortunately, due to the size and depth of these decayed areas, [redacted] probably already suffered tooth pain, particularly on the right side of his mouth, and was in danger of losing all four of these teeth before his twentieth birthday (Massler 1958: Plate 19).

Both clavicles were present and the epiphyses fused, although the left was displaced in the grave, placing it near the skull. Both scapulae were present, but badly degraded due to contact with the soil. All vertebrae were present and in place, but all dorsal areas were degraded due to contact with soil, and all ventral areas degraded due to contact with the viewing glass of the coffin, which collapsed upon the skeleton and pressed on to the surface of the bone. From investigation in situ, it appeared that all vertebrae were completely fused, while the coccyges 2-4 were in the process of fusing, as is age appropriate (Baker et al. 2005:159). The sternum was partially fused, with the manubrium and xiphoid process not yet fused to the corpus sterni. The ribs were crushed post-mortem in the grave; additionally, the ribs of the left side were scattered from the

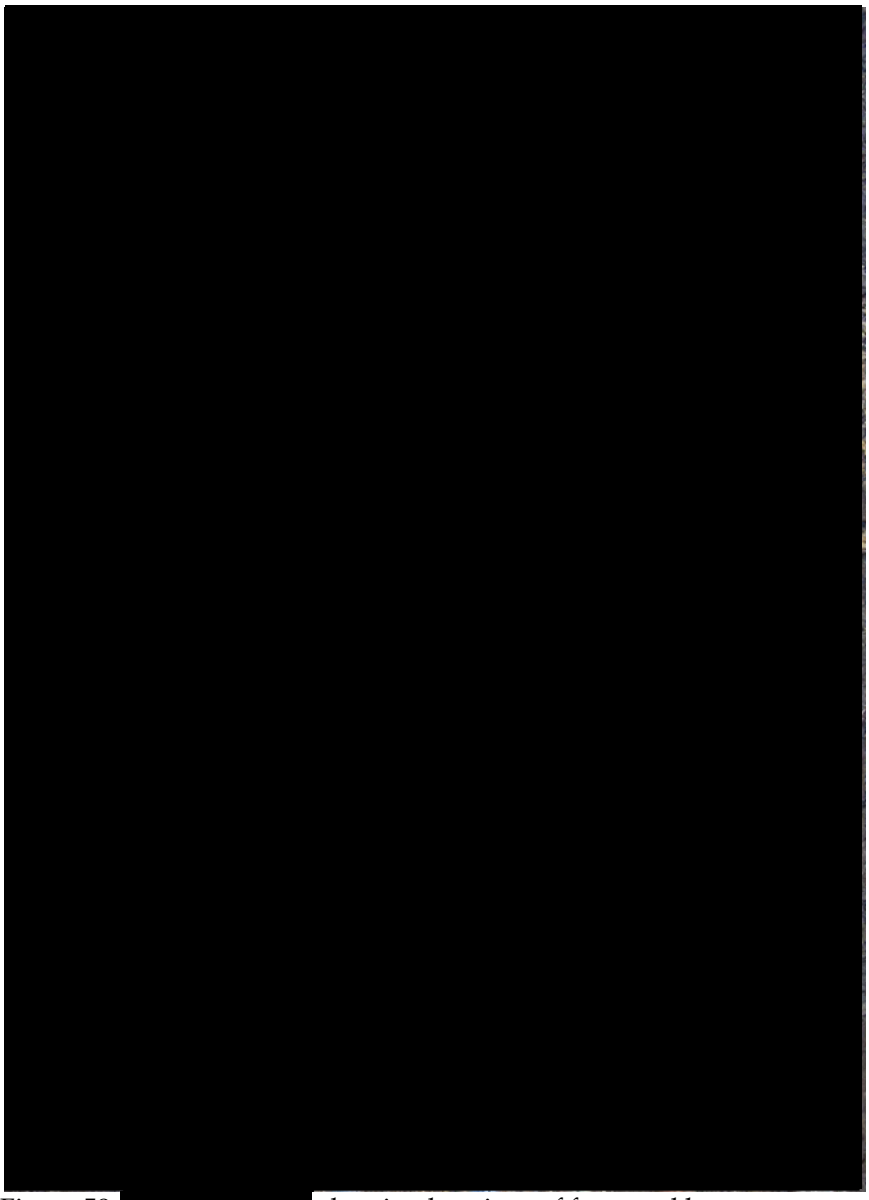


Figure 59. [redacted] showing locations of fractured bones.

skull area to the pelvis. The few ribs that were not degraded showed that the head and tubercle were in the process of fusing, which is typical for a fifteen year old male (Baker et al. 2005:95).

The innominate, or pelvis bone, was broken post-mortem by the weight of the soil, and largely degraded on the dorsal portions. However, it was possible to note that it was totally fused, except for the iliac crest and the ischial tuberosity, which were partially fused, as age appropriate (Baker et al. 2005: 89).

The right and left humerus were in place, but in such poor condition as to disallow measurements. All portions were fused or in the process of fusing, except for the lateral and medial epicondyles, which were still unfused. Complete fusion of the humerus occurs at about the age of 23 years (Bass 1995: 148). Fractures at the head of the left humerus (shoulder) and at the distal end of the right humerus (elbow) may be peri-mortem.

The radius and ulna of both sides were present, although the right radius was slightly displaced at an angle in the grave. The distal and proximal ends of each radius were still fusing. The proximal ends of both ulnas were in the process of fusing, while the distal ends were not yet fused. The fusing stages of both the radius and ulnae are age appropriate (Baker 2005: 108-110). The right ulna evidences fractures in the proximal quarter and distal third; the left ulna has a similar fracture in the proximal quarter. All of these fractures are at a similar angle, and appear to be peri-mortem, the result of [redacted] fall.

The carpal (wrist), metacarpal (hand) and phalangial (finger) bones of both sides were

present, and in the process of fusing, as is age appropriate (Bass 1995:180). The right hand lay flat alongside the skeleton, while the left hand was disarticulated across the femur head and pelvic area. Recalling that this is also where the loose tooth was located, it appears that the left hand may have been placed in the left pants pocket.

The femora were in place, and were measured. The length of the right femur was 421mm (13.8 inches), and the left femur 430mm (14.1 inches). The difference in lengths is problematic, but perhaps supported by the observation that the longer left femur had almost totally fused greater and lesser trochanters, and proximal and distal ends. In contrast, the shorter right femur evidenced partially fused greater trochanter and proximal end, while the lesser trochanter and distal end were not fused at all, indicative of a slightly better developed left leg. The right femur was fractured peri-mortem in two places: just below the greater trochanter and about two inches above the medial epicondyle. Using the Troter and Gleser stature estimation tables (1958), [redacted] may have had a stature of 5'3" to 5'4" (Bass 1995:27). By using the Owsley (1995) formula, [redacted] had a 90% chance of being 5' to 5'6" (White et al. 2005: 400). However, these are just crude estimates based on the lengths of the femora, using formulae intended for adult Caucasian males, and are included simply as a point of interest, not a scientific calculation.

The patellae were unremarkable, except for the location of the left patella – it was located 6 inches away from its anatomical position in the grave. If the fracture of the proximal area of the left tibia was a compound fracture, the open skin would have allowed for bone displacement during decay of the body.

The right tibia was in place, and measured 350mm in length. It was partially fused at the tuberosity, and proximal and distal ends, as age appropriate (Bass 1995: 241). The left tibia was displaced at an angle towards the right tibia, also partially fused, and evidenced probable peri-mortem fractures at the proximal and dorsal epiphyses. Because of the damage, this was not measured.

The left and right fibulae were both in place, and partially fused at their proximal and distal ends, as age appropriate (Bass 1995:252). Measurement was not possible, as the bones were friable and too fragmentary after removal.

The tarsals (ankle), metatarsals (foot) and phalanges (toes) of both sides were present, and in the process of fusing, as is age appropriate (Bass 1995: 180). The right ankle and foot were in place, but the left bones were disarticulated. Again, if the fracture of the distal end of the tibia was a compound fracture, it may have led to bone displacement during decay.

In summary, [redacted] was a fifteen year old boy who died in 1903, purportedly from head injuries suffered from a fall from a windmill. The 1900 census showed that at the age of 12, he attended school 10 months of the year, but was the son of a farmer and undoubtedly helped his father on the farm as well. While the family history does not mention other injuries, the skeletal material recovered showed the loss of a tooth, fractures of the right and left upper arms, right and left lower arms, right upper leg and left lower leg. Given this amount of skeletal trauma, it may also be assumed that there may have been significant internal injuries as well. Prior to his death, [redacted] may have stood anywhere from 5 feet to 5 1/2 feet tall, possible walking with a slight limp due to a right leg shorter (0.35 inch) than the left leg. Although there was no visible evidence, the use of radiologic studies might have shown a previous injury to the right leg. Considering that his grandfather, [redacted] also had a short right leg, this also may be an inherited defect.

[redacted] (Nov. 10, 1908 – Jan 25, 1909)

The excavation was of the male infant, [redacted] who lived for 76 days, or about two and one half months. Coffin materials (discussed earlier) were revealed to have collapsed through time, with deterioration and soil weight being key factors. As noted above, an infant's bones are numerous, small and soft. As a result, after 100 years of burial, there were very few fragments of bone remaining in this burial. There were numerous small fragments of skull, crushed portions of the frontal, parietal, temporal and occipital bones (Figure 60). The fragments were extremely degraded and soft; the parietal thickness measured about 0.50 mm. No other bone fragments were found.

Figure 60. [redacted] skull remains.

CONCLUSIONS

Chicora Foundation exposed and removed four individuals from the St. Johannes Cemetery. Identifications are based on either the marked grave or family history; however, in each case the individual exposed provided skeletal information consistent with the individual ascribed to that grave. This is a very small, and non-representative, sample. Moreover, the removals allowed only a very brief examination prior to reburial. Nevertheless, the resulting information concerning the human remains, burial hardware, and clothing provides an important contribution to the data available for very late nineteenth and very early twentieth century people in Illinois.

The data also help to refine appropriate research methods for the removal of the remainder of the St. Johannes Cemetery, should that ultimately be allowed by court action. In the meantime we hope that the information provided helps families understand, and feel more comfortable with, forensic archaeology and the associated brief study of remains.

Preservation at the cemetery was good. Fabrics were found preserved when associated with brass. The casket wood was in sufficiently sound condition to allow identification of the species (consistently pine). The condition of the bone, given its depth and the heavy clay soils, was reasonably good. Grave outlines are readily recognizable below the A horizon soil, making the expense of ground penetrating radar unnecessary. The investigations also indicate that the 16 hours per grave for recovery proposed by Louis Berger could be reduced to perhaps 10-12 hours, providing additional savings to the city.

Clothing artifacts are present and well preserved. Neither [redacted] nor [redacted] used a shroud or a burial gown. Both were interred in their own clothing. [redacted] was buried in his infant gown. Only the still born [redacted] was simply wrapped and pinned for burial.

Caskets, outer boxes, and a range of casket hardware are all well preserved in the four burials. Our inability to identify much of the hardware may be an indication that by the turn of the century there was a proliferation of manufacturers or wholesalers. While consumers may have had more choice, this choice became more locally constrained. Without a much larger sample of catalogs (and catalogs specific to the study area), it may be difficult to identify specific hardware motifs.

In spite of this, we used more generic pricing and arrived at some information on the wholesale costs of the hardware present in the four burials. The two infant caskets and trimmings had wholesale costs of $10.82 ([redacted] and $10.36 ([redacted] The remaining two were $29.19 ([redacted] and $30.17 ([redacted] Thus the caskets for adolescents and adults appear to be two to three times as costly as those for infants. It would be interesting to see if this ratio remains consistent with a larger sample.

These wholesale costs can probably be multiplied by a factor of at least 3 to 4 times. These costs, in turn, represent 4-10% of a farm family's annual income at the turn of the century.

The skeletal remains provide an interesting insight on the rigors of farming families at the turn of the century. Those

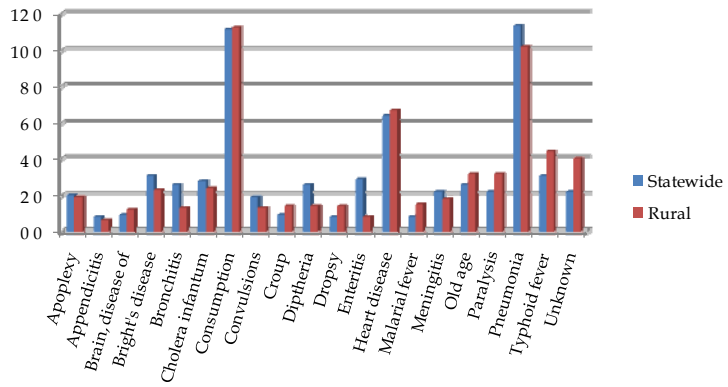


Figure 61. Top 20 cause of death (by percent) in Illinois, based on the 1900 census, comparing statewide and rural statistics.

fortunate enough to live long lives reveal a range of age and occupational stresses. [redacted] for example, suffered from tooth loss, osteoarthritis, and increased definition of muscle attachments. Combined, these gave him both an unusual appearance and gait; much the result of his lifelong career as a farmer. Those not so fortunate to reach old age, such as [redacted] still might exhibit excessive tooth wear, the result of diet and poor dental hygiene. Finally, there were the infants, who even if born alive, might quickly succumb to a variety of childhood diseases.

If we examine the 1900 census for causes of death in Illinois, we find that the most common was pneumonia followed by consumption (TB), heart failure, Bright's disease (kidney disease), and typhoid fever. Together these five accounted for 21,446 deaths or about 35% of all deaths.

There are, however, some differences between the statewide death rankings and those diseases specific to the rural areas, such as Bensenville. For example, enteritis and diphtheria were both far more common in the crowded cities than in rural settings. A death was more likely to be classified as "unknown" in the rural setting, probably because of fewer physician attended deaths. This aside, typhoid fever, paralysis, and "old age" were more common causes of death in the country side.

While the current St. Johannes sample is far too small to be a useful comparison, this does suggest that more extensive examination of those buried at this cemetery has the extraordinary potential to offer very important data on a rural farm population of the period.

Several of the primary causes of death may be revealed in skeletal material. For example, the most common cause of rural deaths, consumption (tuberculosis), is an acute or chronic infection of soft or skeletal tissues. Unfortunately, it is difficult to identify nonspinal tuberculosis lesions from those caused by a variety of other diseases. Sometimes the distribution of those lesions can help point to tuberculosis (Buikstra 1976). Spinal involvement, however, makes the identification far easier.

The second and third most common causes of death, pneumonia and heart disease are unlikely to include skeletal indicators. Typhoid, the fourth leading cause of death, may be evidenced as osteomyelitis, but it occurs in only 1% of the infections (Aufderheide and Rodríguez-Martin 1998:191). Otherwise, few of the leading causes of death are likely to result in skeletal modifications or distinguishing characteristics.

Nevertheless, it use useful to examine the skeletal remains – as shown in this brief examination – to better understand such issues as skeletal pseudopathology, trauma, some congenital abnormalities, many joint diseases, a few infectious diseases (such as tuberculosis), skeletal dysplasias, some neoplastic conditions, and of course diseases of the dentition.

Further examination of those buried at St. Johannes and their death dates can contribute to our understanding of mortality in this rural German farming community.

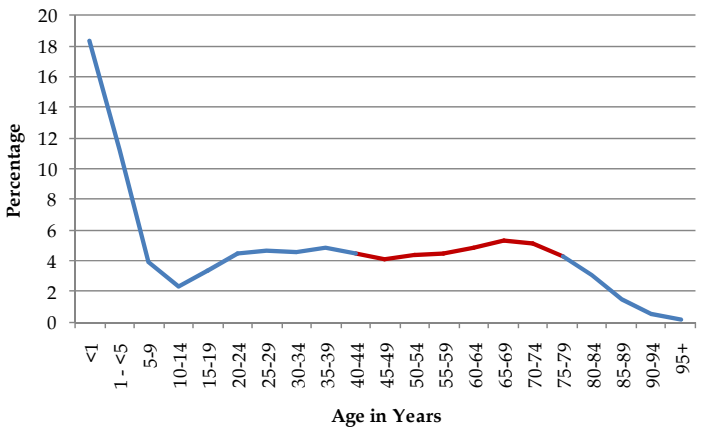


Figure 62. Mortality graph of Illinois deaths in 1900. The red section of the graph shows the shortest adult age range in which half of all deaths occur.

Table 62 provides a mortality graph of those dying in Illinois in 1900. This reveals significant early childhood death rates, with mortality stabilizing during the working years. Half of all adult deaths occur between the years of 45 and 79. The lowest rate of deaths was between 10 and 14, a period between the threats of childhood disease and the threat of work-related deaths. [redacted] was just beyond this age range when his farm related death occurred.

There are very few readily available comparable studies. For example, the Michigan Old City graveyard (McCullough 2003) dates from 1835 to 1882 and was a public burial ground. Swanston (2003) reports on the St. Vital Cemetery near Battleford, Saskatchewan. While those buried there may be more representative of a small farming community, the burials date from 1879 to 1885. Similarly, the work at the Grafton Cemetery (Buikstra et al. 2000) examines a community cemetery dating from an early to mid-nineteenth century in Grafton, Illinois.

One of the most obvious limiting factors in the readily available literature is that it relates to nineteenth century burials. Other examples include the Cross family burials (Larsen et al. 1995) and the Homes-Vardeman-Stephenson Cemetery in Kentucky (Linebaugh and Phillips 2001). Another issue is that many of the widely available reports deal with lower status burials, such as the Dunning Poorhouse Cemetery on the west side of Chicago (Grauer and McNamara 1995). There are, however, interesting parallels, such as the research on "pipe smokers" tooth wear (Buzon and Krueger 1996).

St. Johannes Cemetery represents a burial population that seems to have been rarely examined in the Midwest – a white, farming community spanning the late nineteenth and early twentieth centuries. Consequently, it provides a unique opportunity to address a broad range of significant research issues.

Unfortunately, too many skeletal samples end up in paper boxes with little analysis and even less chance for eventual reburial. This was recently brought out in a *Journal Star* article, "Eternity in a Box Made of Cardboard." It describes the "hundreds of boxes made of corrugated cardboard" stacked in the Dickson Mounds Museum, overseen by the Illinois Department of Natural Resources (Luciano 2009). There many of the remains that might be comparable to the St. Johannes Cemetery are stored, including we presume the 1998 collections from the Chicago Historical Society and eventually the materials currently being removed from the 84 graves at the Lincoln Library in Peoria (Hilyard 2009).

Thus, we hope that some of the $10 million devoted to the St. Johannes removal project by Louis Berger will be spent developing

collections from which data can be used to compare and contrast the early twentieth century materials from this small German community. We hope, also, that the results of the work will be made more widely available to the professional community than most burial removals in the region have been in the past.

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