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# The Yuma Territorial Prison Cemetery: Cold Cases of Grave Importance

Michael D. Gillespie Ph.D.  
*Eastern Illinois University*, [mgillespie@eiu.edu](mailto:mgillespie@eiu.edu)

Gary S. Foster  
*Eastern Illinois University*

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The Yuma Territorial Prison Cemetery:  
Cold Cases of Grave Importance

Gary S. Foster

and

Michael D. Gillespie

Department of Sociology and Anthropology

Eastern Illinois University

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## The Yuma Territorial Prison Cemetery:

### Cold Cases of Grave Importance

#### ABSTRACT

Cemeteries, via grave markers and burial records, usually offer sufficiently scant data to enable a reconstruction of the communities they represent, but cemeteries of total institutions, here, the Yuma Territorial Prison, often yield even less data. With only the variables of ethnicity, sex, prisoner number, date of death, and cause of death, prison conditions were reconstructed for the 111 who died during the prison's operation (1876-1909), and likely for the other 2,958 who were incarcerated there. First, prisoner number had a high, positive correlation with year of death, indicating that those who died in prison did not live long after incarceration. Further investigation found statistical dependence between the ethnicity of the prisoner and cause (and thus, manner) of death, with tuberculosis disproportionately effecting Hispanics and Native Americans, perhaps suggesting segregation by ethnicity. Hispanics were the only ones shot and killed attempting escape, though numerous escapes were attempted. Also statistically dependent was the decade of death by ethnicity, perhaps reflecting some ethnic sequence of incarceration. Finally, cause and manner of death, over time, were also dependent, likely reflecting deteriorating prison conditions. That so few variables can reveal so much refutes the adage that dead men tell no tales.

## The Yuma Territorial Prison Cemetery:

### Cold Cases of Grave Importance

#### *Introduction*

The construction of the Yuma Territorial Prison, Yuma, Arizona, was completed in 1876, 36 years before Arizona statehood in 1912. It is situated just south of the Colorado River on the northeast corner of Yuma. The location was selected for its relative desert isolation, being approximately 170 miles of heat and sand east of San Diego and 220 miles of the same west of Tucson. And, it was the prison's isolated location more than its notorious and infamous reputation that brought it its referents as "Hell Hole" and "Devil's Island." Indeed, claims are made that it was an innovative and progressive prison, a model penal institution for the time, having electricity, running water, flush toilets, and a library, some of them being the first such amenities in the Arizona Territory (Wilken 2010).

Various narratives of the Yuma Territorial Prison have been reconstructed through historical research (e.g., Brent and Brent 1962; Jeffrey 1979; Klungness 1993;), glorified and "mythified" in popular culture by way of the western film genre (e.g., Mangold 2007), and preserved and made accessible as an Arizona state park (<http://azstateparks.com/Parks/YUTE/index.html>). As a state park, in 2010, the museum was renovated, with exhibits telling the prison story from the perspective of the inmates (Knaub 2010). This research continues and extends that perspective, drawing upon the prison cemetery as a sole data source to give the prisoners who died a voice after more than 100 years. In so doing, the research reconstructs an untold, perhaps unknown narrative of the Yuma Territorial Prison, illustrating the dynamic potential of cemeteries to yield rich and unique socio-historical insight often not available through any other single source.

Sociologically, prisons are recognized as total institutions (Goffman 1961). A total institution, unlike other social institutions, is set apart, socially – with societal attitudes, prejudices, and stereotypes – and physically – with walls, cliffs, water or other physical barriers. Virtually all activities – life, work, recreation, medical maintenance, consumption, production, everything – take place within the confines, and for some, even death. Within the total institution as a kind of closed society, norms or standards of

behavior (folkways and mores) emerge and evolve that may be unique to the particular total institution or its type (e.g., prison or mental asylum), setting it even further apart from society. And in being set apart, total institutions are often “pushed away” by those on the outside. For example, citizens of Yuma were often critical of the territorial prison as the “Country Club on the Colorado” for its amenities, like electricity and a library, that were not yet available in town (Knaub 2010), a kind of “penal envy.” And as a total institution, it also provided for its own educational and medical needs

<http://azstateparks.com/Parks/YUTE/index.html>).

The Yuma Territorial Prison opened July 1, 1876, and over the 34 calendar years of its operation, some 3,069 convicts, including 29 females (0.94% of all inmates) were incarcerated. Offences ranged from polygamy to homicide, though the most common reason for incarceration was grand larceny (theft) (<http://azstateparks.com/Parks/YUTE/index.html>). Prisoners were assigned “prisoner numbers” consecutively as they entered the facility. Hence, the first prisoner was #0001 and the last prisoner incarcerated was #3069. Prison expansion and renovation continued throughout its operation, with most labor provided by the inmates. The prison closed on September 15, 1909, having exhausted room for additional expansion on “Prison Hill” and having fallen into disrepair and substandard conditions, even for the time. Prison conditions were overcrowded and deplorable, with claims that as many as ten prisoners were confined to each cell, measuring eight feet by ten feet (Johnson).

Of the 3,069 convicts confined at Yuma Territorial Prison, the vast majority either served their sentences and were paroled or they were transferred when the prison closed. Of all those incarcerated during the prison’s history, only 26 (0.85%) successfully escaped, and only two of those from within the prison confines. The facility had no death row, as capital punishment was the responsibility of county governments and not the territorial government (<http://azstateparks.com/Parks/YUTE/index.html>). Hence, cemetery/burial records identify only one individual, apparently sentenced by Yuma County, who was legally executed. Moreover, sentencing to prison was, itself, not a death sentence, no matter how retched the conditions might have been or imagined. Of the 3,069 inmates, only 109 died while incarcerated, and two more “prisoners” were deceased when delivered to the facility, either died or killed

while being transported. Hence, there are 111 (3.6%) deaths in total, and the scant data that the burial records offer are all that remain for the dead to tell their tales and allow a reconstruction of the Yuma Territorial Prison through them.

The prison cemetery is located outside the confines of the prison proper, on a knoll just east of the women's cells and just southeast of the men's cells. Some 104 prisoners were actually buried in the cemetery, the bodies of the other prisoners who died while incarcerated being claimed by families. Grave markers were tablet form, made of wood, and engraved (carved) with the prisoner's name, prisoner number, and date of death. Most of the grave markers were intact and in place as recently as 1950, but virtually all are now gone, the consequence of theft and deterioration. Only one remains, that of a J. F. Floyd, now on display in the prison museum. The graves themselves were reported as shallow, though allegedly deep enough to accommodate wooden caskets (Johnson), but no archaeological investigation has been conducted to determine interment practices. Once a grave was backfilled, it was covered with rocks. Archaeologically, such an interment is referred to as a cist – the rocks not only marked the grave but prevented or at least deterred scavenging animals from disinterring the burials. Some insight is offered by the following:

**A Convict's Funeral:** Death is the tyrant that strikes fear into the hearts of most of the convicts. It means those that are not claimed and are without friends will lie beneath the barren plots just outside the penitentiary – the convict's cemetery. Piles of rocks shaped like a grave with a plain slab giving the name and number mark the final resting place. Services are brief at a convict's funeral. There are no mourners, no tears, no flowers – a simple burial service by a minister or priest, and that is all (*Tucson Citizen* 1906).

It is the 111 individual burials that yield the cumulative data to extend or affirm the Yuma Territorial Prison narrative.

### ***Literature Review***

Cemeteries are studied as subject matter in their own right (e.g., from disciplines like history, genealogy, art history, historic preservation, and folklore), an end in themselves, and cemeteries are

studied to yield insight into the communities (including prisons) they represent (e.g., from disciplines like sociology, anthropology, and historical archaeology), a means to an end. “Serving as replicas of the social structure of communities, cemeteries can be analyzed for the cultural patterns they reflect as an historical record” (Collier 2003, p. 727). From that perspective, cemeteries are then regarded as “quantifiable artifacts that extend back into time . . . , useful to students of social structure” (Young 1960, p. 447), to be “analyzed and read as a cultural text . . . about the . . . community . . .” (Vidutis and Lowe 1980, p. 103). It is this latter perspective that is most germane to the current research.

Martineau (1989), the first, in 1838, to systematically treat sociological methodology toward cemeteries, noted them as archives of socio-demographic data in the absence of public/vital records (births and deaths), which were not kept in the United States until 1919 and not uniformly maintained until 1933 (Petersen 1975; Shryock, Seigel, and Stockwell 1976). Martineau (1989, pp. 113, 115) also recognized the utility of cemeteries in studying cultural values and beliefs (what she termed “morals”), saying one “. . . will find no better place of study than the cemetery – no more instructive teaching than monumental inscriptions. The brief language of the dead will teach . . . more than the longest discourse of the living. . . . Much may be learned from the monumental inscriptions. . . . It follows that epitaphs must everywhere indicate what is there considered good.” That is, epitaphs indicate cultural values (“morals”) that are regarded as appropriate for a particular place and time. Thus, as cemeteries archive social patterns and give voice to the deceased, within a particular place and time, “An inscription . . . presents a summary of the morals of the age and class to which it belongs” (Martineau 1989, p. 116).

While Warner and Lunt (1949, pp. 155-156) initially acknowledged a generally accepted relationship between social class and the character of burials, Kephart (1950) first presented empirical evidence of social-class differences reflected in cemetery practices. Warner (1959), with interview and survey data and cemetery documents, presented cemeteries as expressions of community structure and values reflecting social class, associational, and demographic patterns. These previous studies employed cemetery data/records but not gravestone data, *per se*. Subsequent research began extracting data from, and about gravestones for analysis.

Young (1960) employed gravestone data to assess social stratification and familial dimensions as reflections of community social structure. Durand (1960) employed gravestone inscriptions to estimate life expectancies in the Roman Empire during the 1<sup>st</sup>- and 2<sup>nd</sup>-Centuries. Foster and Hummel (1995) analyzed a small historic cemetery, no larger than the Yuma Territorial Prison cemetery, examining gender- and age-status biases and seasonal patterns of conception, natality, and mortality; this research was later replicated and expanded to affirm gender biases and gendered age patterns, and seasonal conception, natality, and mortality patterns (Foster, Hummel, and Adamchak 1998). Haveman (1999) sociologically analyzed children's gravestones, revealing changing patterns of statuses, roles, and socially constructed perceptions of them over time. Focusing on the other end of the age spectrum, Foster, Sherrard, Cosby, and Hummel (2001) employed gravestones and burial records to examine the social constructions of "old age" and "senility," and the differential application of these "elder-status labels" historically. Extending that research, Foster, Hendrickson, and New-Freeland (2002) utilized gravestone data and burial records to reconstruct the socio-demographic associations and characteristics of centenarians historically.

Foster and Eckert (2003) drew upon gravestone and burial records data to empirically and quantitatively compare and reconstruct African-American and white communities of the 19<sup>th</sup>- and early 20<sup>th</sup>-Centuries. Collier (2003) analyzed gravestone content, including motifs, revealing a longitudinal community/societal shift away from orientation and identity with social institutions and toward greater personal expressions of self, the emerging "me generation." On the other end of social identity, Foster and Hendrickson (2006) utilized gravestones and burial records, perhaps the only singularly comprehensive data source offering the opportunity, to study anonymity; the research examined nameless burials to reveal socio-demographic patterns associated with anonymity. Finally, Foster and New Freeland (2007) studied a single gravestone motif (and its variants), a 19<sup>th</sup>-Century symbol, revealing it as a cultural value that was deemed more appropriate for association with some socio-demographic groups and less appropriate for other groups.



The research constituting this body of literature sometimes had as its primary focus particular social groups (based on age status, ethnicity, or gender), social class, or social values, but consistently, the research used the data of cemeteries as a lens to focus on community beyond the cemetery gates.

Similarly, this research analyzes data of the Yuma Territorial Prison cemetery to empirically reconstruct a narrative of the prison, one that may be beyond telling from any remaining source.

### ***Methods***

Cemetery records (gravestones and burial records) are *a priori* from which all research questions, and ultimately their answers must come. Hence, significant disadvantages are that such *a priori* data both prompt and limit questions, with no opportunity to revise, refine and extend questions beyond the parameters of the data. Within these limitations, the research becomes a kind of forensic sociology, employing scant data to assemble a narrative through bivariate and descriptive analyses. Hence, we move beyond typical univariate descriptions, harnessing a unique advantage of insight such data might yield. Conceivably, no other single data source holds the potential for such social reconstruction historically.

### ***Sampling***

All 111 cases of prisoner deaths were coded for study, thus constituting a population. Methodologically, random samples of most kinds of cemetery populations are difficult to justify in that these populations are, themselves, merely inchoate samples of still larger deceased populations. That is, a cemetery population is a naturally occurring sample (random or not, depending upon the type of cemetery) of a community (in this instance, a prison community), the members of which are destined to die and be interred in some cemetery. The 111 prisoners who died at the territorial prison constitute a population because it is exhaustive of all who died while incarcerated. Arguably, the population can also be regarded as a sample, random or not, in that it enables some generalization of inferences to be made about life, conditions, and practices in the prison. With an N size of only 111, it might seem that there would be little to be learned from an analysis of death at the Yuma Territorial Prison. However, cemetery research, particularly of historic cemeteries, is often dependent upon small populations (e.g., see Foster and Hummel 1995), yet the insight yielded is often unique.

Methodologically, bivariate comparisons using contingency tables are generally suitable for describing populations. The chi-square test of independence in bivariate relationships shows whether the expected equal conditional distribution of cases on one variable is identical at each category of the other variable; or whether this assumption is rejected because the two variables are dependent and the conditional distributions are not equal (Agresti and Finlay 2009). The use of chi-square statistics with a population, under the assumption of statistical independence, can strengthen the historical interpretation of such observed patterns and conditional association. Typically an artifact of inferential statistics, statistical significance empowers generalizations from a sample to a population. However, with population data, statistical significance is arbitrary and standards of application and acceptance are moot (e.g., contingency table cell values of five or less are not a potential result of sampling but an accurate reflection of the population's condition). Yet, the chi-square test of independence is acceptable to test patterns within populations, even with a small number of cases. Despite the fact then that the contingency tables presented often contain cell values of less than six, as degrees of freedom (df) increase beyond 1, chi-square ( $\chi^2$ ) values become more reliable, and therefore no correction for continuity is necessary (Yates 1934). The use of the chi-square test of independence contributes to a more complete description of the population, and, yielding tests of significance, strengthen generalizations of observations back to the prison itself, including reconstructions of the population's experiences prior to death in prison. However, the Yuma Territorial Prison, as community or total institution, is presented on its own and not as representative of other prisons.

### *Variables*

Gravestones typically yield a range of social data, including gender (as garnered from given name), ethnicity (at least as surmised by surname), age, seasonal fertility (conception and natality from birth dates) and mortality patterns, sometimes marital status and other familial statuses (e.g., "mother," "son," "daughter") and occasionally migration and occupational data. Gravestones, themselves, in terms of size and opulence, may imply some imprecise and relative measure of social class and social stratification. The grave markers of the Yuma Territorial Prison cemetery were more limited in the social

data they offered, a reflection of the prison as total institution. Personal choices are few, made by those controlling the total institution, and conformity and uniformity are institutionalized and imposed. Grave markers contained only the prisoner's name, number and death date, and though the grave markers no longer survive, the prison burial records contain those data in addition to the cause of death (Johnson). From those limited data, eight variables (sex, ethnicity, prisoner number, season of death, year of death, decade of death, cause of death, manner of death) were coded for analysis.

*Sex.* Given names typically enable gender identification. Gender is an important sociological variable, an ascribed status influencing social identity, status and life chances and opportunities. While the Yuma Territorial Prison accepted both male and female inmates, the sexes were segregated in separate cell blocks. Of the 3069 prisoners incarcerated, 29 (0.94%) were female, and only one died in prison. Hence, 3.5% of all women incarcerated died at the Yuma Territorial Prison, and 3.6% of all men died while incarcerated. Equal proportions of prison mortality for both males and females is interesting in that among historical data, particularly frontier data, mortality for females was typically higher (see Dethlefsen 1969; Foster, Hummel, and Adamchak 1998), perhaps due to the attendant risks of pregnancy and childbirth, and lower social status, according them less access to medical care. Conceivably, prison, as a total institution, shielded women from the risk of pregnancy and provided some greater modicum of healthcare than would have otherwise been available. However, with only one female, there is no trend or pattern to be extrapolated. Hence, gender as a variable is excluded from further analysis (for more on the females incarcerated in the Yuma Territorial Prison, see Klungness 1993).

*Ethnicity.* Surnames enable the ethnic identification or affiliation of the deceased, at least using ethnic name dictionaries (e.g., Rule and Hammond 1973) and genealogical resources (e.g., ancestry.com). While less precise than birthplace, that datum was not provided, and the interest is more one of ethnic association and interaction than of origins. Ethnic identity and affiliation, as an ascribed status, is a powerful sociological variable, providing much of an individual's social identity, both to self and others, influencing lifestyle, social identity, social associations, life chances, social status, opportunities, and so on, certainly outside the confines of a total institution and perhaps within a total institution as well.

Of the 111 cases, some 60 (54.1%) were Hispanic, 29 (26.1%) were British, 15 (13.5%) were Native American, and seven (6.3%) were “other,” either French (3), Germanic (2), or Asian (2). With that determination and given the time period’s (1876-1909) likely social construction of “races,” those of British, French, and Germanic heritage or descent were further collapsed into a single group, “white, non-Hispanic.” The final ethnic composition studied then included Hispanics (60/54.1%), whites (34/30.6%), Native Americans (15/13.5%), and Asians (2/1.8%).

It is not known if prisoners were segregated or integrated by ethnicity, what likely would have been perceived as “race” at the time, but analysis may yield some tentative insight. Practices within contemporary penology suggest that segregation is a control mechanism to minimize conflict. Moreover, without access to all prison records, it is not known if the ethnic representations in the cemetery are proportionate to, and representative of the total prison population or if certain ethnic groups are over- or under-represented in the cemetery.

*Prisoner number.* Prisoner numbers were consecutively assigned upon incarceration, and thus reveal only the relative sequence of incarceration for those who died in prison, but it has the potential to reveal some indication of life longevity once a prisoner was incarcerated.

*Season of death.* With precise date of death (day and month, as well as year) reported, season of death could be determined, and certain diseases and other causes of death may be seasonally influenced or driven. Seasonal temperatures are more extreme in the summer in Yuma, Arizona, with highs typically exceeding 100° F, but temperatures are more moderate in the other seasons, with lows rarely falling below 45° F in the winter. Hence, seasons were partitioned into summer (June, July, August), fall (September, October, November), Winter (December, January, February), and spring (March, April, May). Death by season in the Yuma Territorial Prison was randomly distributed, with approximately 25% of all deaths occurring each season (fall, 23.4%; summer and winter, 24.3% each; spring, 27.9%). Hence, the notorious heat of southwestern Arizona summers caused no greater mortality than did the other seasons. While season of death has been used as a variable in other studies utilizing cemetery data, recognizing the prevalence of food-, insect-, and water-borne diseases in late summer and the prevalence of flu,

pneumonia, and other respiratory stresses in late winter (e.g., see Foster, Hummel, and Adamchak 1998), with no differential seasonal patterns of mortality in this data set, season of death is dropped as a variable.

*Year and decade of death.* Year of death, as a measure of time, facilitates the exposure of patterns, trends, and change over time. Over the 34 calendar years of the prison's operation, inmate mortality occurred in 28 of them, 1882 – 1909, inclusively. In that the first six years of the prison's operation (1876 – 1881, inclusively) were without mortality suggest that the prison, in its growth phase, was perhaps tentatively and cautiously administered and being relatively new, was uncontaminated and uncrowded. With 28 consecutive years of mortality, and with a range of only one to eight deaths per year, any pattern of mortality by year might be too dispersed and diluted to be readily interpretable. Hence, year of death was also collapsed and coded as decade of death as another variable of time. Mortality increased in a unilinear manner over the four decades (1870s, 0% of all deaths; 1880s, 22.5% of all deaths; 1890s, 28.8% of all deaths; 1900s, 48.6% of all deaths). Such a dramatic increase not only offers mute testimony to the growth of the prison population, but perhaps to its deterioration and overcrowding.

*Cause and manner of death.* Death records identified cause of death in most instances. Cause of death refers to the precise medical or physiological reason for death, e.g., cardiac failure or cerebral hemorrhage, and that determination is the purview of medico-legal officers (e.g., coroners or medical examiners). Alternatively, manner of death refers to the way the deceased met death and may be determined or deduced by the cause of death. Manner of death is standardized into five types: natural, accidental, homicide, suicide, and undetermined. Historically, some groups/deaths (e.g., the elderly or minorities) may constitute low priority for assessing cause of death, but that was not apparent in the death records of the prisoners, and is likely due to the presence of medical personnel (attending physicians) within the prison (Henson 1978).

Approximately 30 causes of death were identified, many of them antiquated diagnoses, and far too many to yield any meaningful or interpretable patterns. Antiquated diagnoses were contemporized and the International Classification of Diseases (ICD; U.S. Department of Health and Human Services 1989) was consulted but not strictly adhered to in collapsing causes of death into fewer categories. For

example, “shot while trying to escape” was preserved for greater accuracy and potential insight regarding ethnicity and cause and time of death. Manner of death was coded directly from the original causes of death.

Causes of death were collapsed into nine causes, including tuberculosis, pneumonia, cardiac, exhaustion/debility, suffocation/asphyxiation, gunshot-escape attempt, trauma, digestive/intestinal, and other. Ten inmates (9.0%) had no cause of death identified, while each of the causes of death represented less than 10% of all deaths except for tuberculosis, that causing 45.5% of all deaths. Manner of death also yields insight into life (and death) in prison. Natural causes accounted for 73.9% of all deaths; homicide accounted for 10.8%; suicide, 4.5%; accidental, 5.4%; and undetermined, 5.4%. Disease and illness, not violence, were the greatest threats to the wellbeing of prisoners. Of the twelve inmates who died by homicide, two (16.7%) were killed by other inmates, one (8.3%) was shot before entering prison and died as a result, one (8.3%) was legally executed (hung) by Yuma County, and the other eight (66.7%) were shot and killed trying to escape, what would have been deemed as “justifiable homicide.”

### ***Findings***

This research is cast as exploratory, without benefit of explicit hypotheses. No similar research was found in the literature with regard to study characteristics – a total institution from the latter quarter of the 19<sup>th</sup>-Century with such a disproportionate representation of ethnic minorities. Hence, any hypothesis would have been offered as hunch and speculation, and without an informed rationale.

#### *Prisoner Number by Year of Death*

While year of incarceration was not a datum reported in the death/burial record, prisoner number was reported, and prisoner number was assigned consecutively as prisoners were incarcerated; thus, it serves as a relative proxy of time of incarceration, and when the prisoner number is correlated with year of death (both interval level variables), the correlation is statistically significant (Pearson’s  $R=.948$ ;  $p<.001$ ; see Fig. 1). The strength of the correlation and the graph offer a nearly perfect and positive unilinear correlation, indicating that those who were incarcerated and died tended to not live long upon imprisonment. They came into prison, nearly destined to die, either because of health conditions they

brought into prison, encountered in prison, or because of treatment that they encountered in prison. It is indisputable, however, that those with low prisoner numbers (incarcerated in early years) died in the earlier years of the prison's operation and history, and those with high prisoner numbers (incarcerated in later years) died in the later years of the prison's operation and history. More important, this correlation justifies deeper investigation into the patterns of death at Yuma, especially who these prisoners were and how, in fact, they died shortly after entering the prison.

[Fig. 1 about here]

### *Cause of Death by Ethnicity*

Ethnicity is a major type of ascribed status that substantially influences life chances/opportunities, privilege and social status, and social identity. As such, ethnicity can influence longevity (e.g., see Foster and Eckert 2003), mortality and (exposure to) causes of death. An examination of the relationship between ethnicity and cause of death, in fact, revealed statistical dependence ( $\chi^2=42.054$ ;  $df=24$ ;  $p=.013$ ; see Table 1), indicating that cause of death was more than just chance and was influenced by ethnicity and all that goes with it (e.g., preferential treatment, differential association, segregation, and so on).

[Table 1 about here]

Each cause of death accounted for less than 10% of all deaths except for tuberculosis, which accounted for 45.5% of all deaths. TB is an extremely communicable, density-dependent disease. While Hispanics and Native Americans constituted 67.1% of the population, 80.4% of all tuberculosis mortality were Hispanics and Native Americans. Alternatively, while whites were 30.6% of the population, only 19.6% of all TB deaths were white. This differential distribution of such a communicable disease is perhaps some tentative evidence that prisoners were segregated and separated by ethnicity or "race." Moreover, to the extent that Hispanics constituted the largest ethnicity in the population (54.1%), it is not unreasonable to suggest that they were more "densely confined" in the individual cells.

One other pattern warrants discussion, that of being shot and killed while attempting escape, the only "cause of death" to affect one ethnic group exclusively. All eight escape attempts ending in death over the 34 years of the Yuma Territorial Prison's existence involved only Hispanics. Hispanics

constituted the largest ethnic proportion of the population, and the prison was situated less than twenty miles north of the Mexican town of San Luis Rio Colorado, perhaps a tempting destination for any escapee, given the barren desert in all other directions. However, it is inconceivable that only Hispanics attempted escape. “Of the many prisoners who attempted escape, twenty-six were successful, but only two were from within the prison confines” (<http://azstateparks.com/Parks/YUTE/index.html>). It is conceivable that the evidence is reflecting a certain bias or prejudice in the efforts of guards to thwart escape attempts, dependent upon the ethnicity of the potential escapee – shoot to kill or shoot to wound. While the population size is insufficient to make any conclusion, the pattern of deaths, by comparison, is sufficient to raise the question.

#### *Manner of Death by Ethnicity*

An examination of the relationship between ethnicity and manner of death also reveals statistical dependence ( $\chi^2=33.321$ ;  $df=12$ ;  $p=.001$ ; see Table 2). Most categories of manner of death involve small N sizes, but two are prominent – natural cause and homicide. Suicide, accident, and undetermined each involved only about 5% of the population. Natural cause includes TB and most of the other identified causes of death (pneumonia, exhaustion/debility, cardiac, digestive/intestinal, and all of the causes classified as other). While 69.4% of the population was nonwhite and 30.6% was white, 74.4% of all deaths due to natural cause involved nonwhites and 25.6% involved whites. There was a total of 12 deaths due to homicide during the prison’s 34 year operation (10.8%). Of the homicides, nine were “justifiable,” prison guards shooting (and killing) escapees and one legal execution, two were committed by other inmates, and one was the result of a prisoner who was delivered to prison, already shot, and later died. Eleven (91.7%) of those 12 homicides involved Hispanics. Again, while N size is small, the fact that 54.1% of the population experiences 91.7% of all homicides suggests something about prejudices and race/ethnic relations in a Southwestern, 19<sup>th</sup>-Century penal institution. Prison life (and death) was hard for all, violent for some, and fatally violent for a select group.

[Table 2 about here]



### *Decade of Death by Ethnicity*

An examination of the relationship between ethnicity and decade of death may reflect something of an ethnic group's journey or migration into prison and into the status of "criminal" (and their relative standing and position in society). The relationship between ethnicity and decade of death was statistically dependent ( $\chi^2 = 20.365$ ;  $df=6$ ;  $p=.002$ ; see Table 3). Interestingly, while the prison opened in 1876, there were no deaths until the 1880s (1882). This may reflect something of the condition of the prison (new) and prison conditions (neither crowded nor contaminated with disease and unsanitary conditions). The two largest ethnic groups, Hispanics and whites (54.1% and 30.6%), exhibit an increase in mortality from the first decade of deaths (1880s) to the last decade of deaths and prison operation (1900s). In fact, in the first decade of the 20<sup>th</sup>-Century, the last decade of the prison's operation, over half of all total Hispanic deaths (53.3%) and over half of all total white deaths (52.9%) occurred. This again suggests something of prison conditions, increasingly deteriorating over time, increasingly becoming contaminated with disease and vermin, and increasingly becoming overcrowded.

[Table 3 about here]

The third largest ethnic group, Native Americans (13.5%) did not show up in the cemetery death records until the 1890s, when 73.3% of total Native American deaths occurred, the largest proportion of any ethnic group to die in any decade. The late 1880s and the 1890s coincides with the blatant hostilities between the Dani (Navajo) and the Apache and the U.S./white interests in the Southwest, the last of the "Indian Wars." Such hostilities may have prompted an increase in the incarceration of Native Americans or those who had some descent from that lineage, and in turn, that could then account for their appearance in prison death records in the 1890s. Finally, those hostilities and prejudices could account for nearly three-quarters of them dying within the single decade of the 1890s.

### *Cause of Death by Decade of Death*

Causes of death over time may change, increasing or decreasing for any number of reasons, including growing sophistication and accuracy of medical diagnoses, even when standardizing antiquated medical diagnoses, as well as exposure to changing conditions in the environment. An examination of the

relationship between cause of death and time, as expressed by decade of death reveals statistical dependence ( $\chi^2 = 27.790$ ;  $df=16$ ;  $p=.033$ ; see Table 4). The greatest changes over time were exhibited in tuberculosis, exhaustion/debility, and shot/killed while trying to escape. Death due to TB showed a unilinear increase over the decades, from 10.9% in the 1880s to 50.0% in the first decade of the 1900s. This trend is evidence that reflects deteriorating prison conditions, physically, and overcrowding, with more and more prisoners being incarcerated in the prison cells, particularly among those cells devoted to “minorities,” i.e., Hispanics and Native Americans. Exhaustion/debility, as a cause of death, exhibited a dramatic increase over two decades, from 14.3% in the 1890s to 85.7% in the first decade of the 1900s. The dramatic emergence of exhaustion/debility as cause of death suggests that it may have been a new or revised/modified cause of death within the medical community, and may again suggest deteriorating prison conditions.

[Table 4]

The cause of death, “shot while escaping” was bimodal in occurrence, with 62.5% occurring in the 1880s and 37.5% occurring in the 1900s. In the 1880s, prisons in southwestern Arizona (the New Mexico Territory) were new and perhaps unfamiliar institutions. Prisoners incarcerated there were perhaps substantially unfamiliar with such institutions and were perhaps equally unfamiliar with the dire consequences of their plight. Attempted escape on their part seemed a reasonable alternative, and the new prison as total institution had a reputation to establish and prove. The last decade of the prison’s existence, the first decade of the 1900s, was stressed with the problems of deteriorating conditions and overcrowding, and inmate response to those environmental stressors was perhaps to attempt escape. Interpretations of such statistically significant patterns are intended to make some socially reasonable explanations of them, and even in that absence, the statistically significant relationships and patterns remain to be explained.

#### *Manner of Death by Decade of Death*

Collapsing cause of death into manner of death offers greater density to the variable and may yield additional patterns and insight for interpretation. An examination of the relationship between

manner of death and decade of death reveals statistical dependence ( $\chi^2=41.457$ ;  $df=6$ ;  $p=.000$ ; see Table 5). Three of the five categories of manner of death (suicide, accident, undetermined) each account for only about 5% of all deaths. Natural cause accounts for about 74% of all deaths and homicide accounts for nearly 11% of all deaths. Deaths due to natural cause show a unilinear increase (1880s, 11.0%; 1890s, 35.4%; 1900s, 53.7%), likely some further testament to growing prison population, deteriorating conditions and overcrowding in cells. Homicide displays a bimodal pattern, with 41.7% of all homicides occurring in the 1880s and 50.0% of all homicides occurring in the 1900s. The bimodal pattern again speaks to the emergence, establishment, and deterioration/decline of the Yuma Territorial Prison as a penal (and total) institution. Though the N size is small, it is worth noting that 80.0% of all suicides occurred in the last decade of the prison's operation, when its condition and overcrowded state were most exacerbated.

[Table 5 about here]

### *Summary and Conclusions*

Relationships between season of death and ethnicity were found to be without statistical dependence, and in that all ethnicities were exposed to all seasons at the same time, the lack of statistical dependence may merely suggest that resistances and immunities, which would have potentially yielded ethnic mortality differences by season, are more environmentally than genetically/hereditarily driven. Relationships between season of death and cause of death/manner of death were also examined, though no statistically significant relationships were found. That contradicts previous cemetery research which found that flu, pneumonia, and other respiratory stresses were more virulent in the winter and water-, food-, and insect-borne diseases like malaria, cholera, and dysentery were more virulent in the early fall (see Foster, Hummel, and Adamchak 1998). However, that research was conducted in the Midwest (Illinois), and the lack of significance likely affirms the role of season, climate and geography in driving some diseases and not others.

This research illustrates the contributions of the scientific approach to confirming and revealing history, finding statistically significant differences in a number of relationships that yielded and extended

insight, or affirmed some historical record or the perception of that historical record of the Yuma Territorial Prison. Affirmation of overcrowding is empirically confirmed or at least suggested, while the imagined physical brutality and violence of 19<sup>th</sup> Century prisons, at least the territorial prison of Yuma, is largely dissuaded and unsupported. Disease and illness was the greater threat of mortality for those incarcerated. And even death was not a great threat since only 111 (3.6%) of the 3069 prisoners incarcerated died while in prison. The punishment of incarceration and confinement was the loss of freedom, the denial of elective behavior and interaction, and the endurance of increasingly squalid and deteriorating conditions. Death came to relatively few, but for those few, sufficient evidence remains for their story, at least collectively, to be told, refuting the adage that dead men tell no tales.

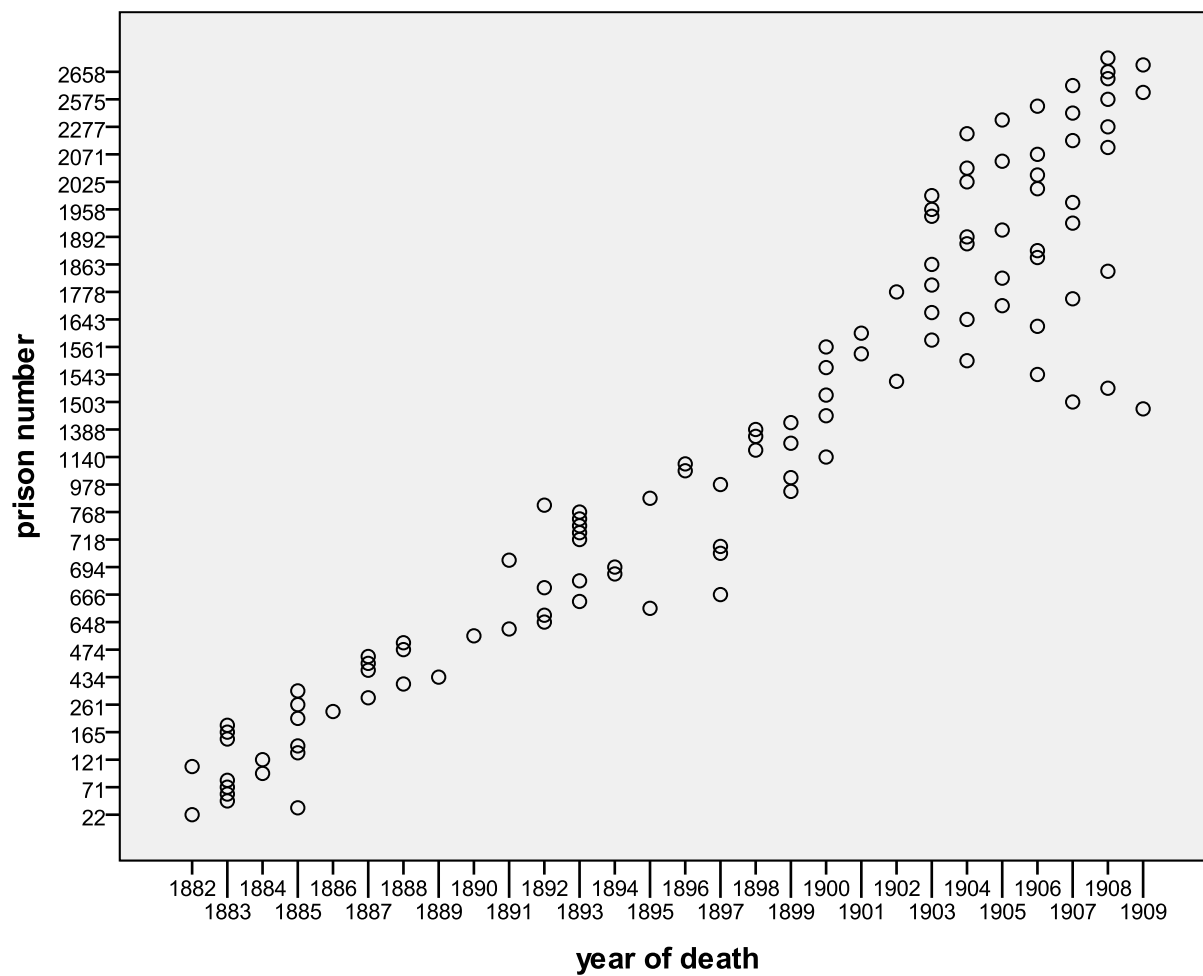
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Figure 1

## Prisoner Number by Year of Death



Pearson's  $R = .948$ ; Asymp. Std. Error = .009; Approx.  $T = 30.975$ ;  $p < .001$

Table 1  
Cause of Death by Ethnicity

Cause	Ethnicity				Total
	Hispanic	White	Native American	Asian	
<b>Tuberculosis</b>	26	9	11	0	46
<i>% within Cause</i>	56.6	19.6	23.9	0.0	100.0
<i>% within Ethnicity</i>	44.8	34.6	73.3	0.0	45.5
<b>Pneumonia</b>	3	2	1	0	6
<i>% within Cause</i>	50.0	33.3	16.7	0.0	100.0
<i>% within Ethnicity</i>	5.2	7.7	6.7	0.0	5.9
<b>Exhaustion/ Debility</b>	3	4	0	0	7
<i>% within Cause</i>	42.9	57.1	0.0	0.0	100.0
<i>% within Ethnicity</i>	5.2	15.4	0.0	0.0	6.9
<b>Cardiac</b>	4	4	0	0	8
<i>% within Cause</i>	50.0	50.0	0.0	0.0	100.0
<i>% within Ethnicity</i>	6.9	15.4	0.0	0.0	7.9
<b>Suffocation/ Asphyxiation</b>	1	1	0	1	3
<i>% within Cause</i>	33.3	33.3	0.0	33.3	100.0
<i>% within Ethnicity</i>	1.7	3.8	0.0	50.0	3.0
<b>Shot Escaping</b>	8	0	0	0	8
<i>% within Cause</i>	100.0	0.0	0.0	0.0	100.0
<i>% within Ethnicity</i>	13.8	0.0	0.0	0.0	7.9
<b>Trauma</b>	3	4	0	0	7
<i>% within Cause</i>	42.9	57.1	0.0	0.0	100.0
<i>% within Ethnicity</i>	5.2	15.4	0.0	0.0	6.9
<b>Gastrointestinal</b>	2	1	1	0	4
<i>% within Cause</i>	50.0	25.0	25.0	0.0	100.0
<i>% within Ethnicity</i>	3.4	3.8	6.7	0.0	4.0
<b>Other</b>	8	1	2	1	12
<i>% within Cause</i>	66.7	8.3	16.7	8.3	100.0
<i>% within Ethnicity</i>	13.8	3.8	13.3	50.0	11.9
<b>Total</b>	58	26	14	2	101
<i>% within Cause</i>	57.4	25.7	14.9	2.0	100.0
<i>% within Ethnicity</i>	100.0	100.0	100.0	100.0	100.0

$$\chi^2 = 42.054; df = 24; p = .013$$



Table 2  
Manner of Death by Ethnicity

Manner	Ethnicity				
	Hispanic	White	Native American	Asian	Total
Natural cause	46	21	14	1	82
<i>% within Manner</i>	56.1	25.6	17.1	1.2	100.0
<i>% within Ethnicity</i>	76.7	61.8	93.3	50.0	73.9
Homicide	11	1	0	0	12
<i>% within Manner</i>	91.7	8.3	0.0	0.0	100.0
<i>% within Ethnicity</i>	18.3	2.9	0.0	0.0	10.8
Suicide	0	4	0	1	5
<i>% within Manner</i>	0.0	80.0	0.0	20.0	100.0
<i>% within Ethnicity</i>	0.0	11.8	0.0	50.0	4.5
Accident	1	4	1	0	6
<i>% within Manner</i>	16.7	66.7	16.7	0.0	100.0
<i>% within Ethnicity</i>	1.7	11.8	6.7	0.0	5.4
Undetermined	2	4	0	0	6
<i>% within Manner</i>	33.3	66.7	0.0	0.0	100.0
<i>% within Ethnicity</i>	3.3	11.8	0.0	0.0	5.4
Total	60	34	15	2	111
<i>% within Manner</i>	54.1	30.6	13.5	1.8	100.0
<i>% within Ethnicity</i>	100.0	100.0	100.0	100.0	100.0

$\chi^2 = 33.321$ ;  $df = 12$ ;  $p = .001$

Table 3  
Decade of Death by Ethnicity

Decade	Ethnicity				Total
	Hispanic	White	Native American	Asian	
1880s	14	10	0	1	25
<i>% within Decade</i>	56.0	40.0	0.0	4.0	100.0
<i>% within Ethnicity</i>	23.3	29.4	0.0	50.0	22.5
1890s	14	6	11	1	32
<i>% within Decade</i>	43.8	18.8	34.4	3.1	100.0
<i>% within Ethnicity</i>	23.3	17.6	73.3	50.0	28.8
1900s	32	18	4	0	54
<i>% within Decade</i>	59.3	33.3	7.4	0.0	100.0
<i>% within Ethnicity</i>	53.3	52.9	26.7	0.0	48.6
<b>Total</b>	60	34	15	2	111
<i>% within Decade</i>	54.1	30.6	13.5	1.8	100.0
<i>% within Ethnicity</i>	100.0	100.0	100.0	100.0	100.0

$$\chi^2 = 20.365; df = 6; p = .002$$

Table 4  
Cause of Death by Decade of Death

Cause	Decade			
	1880s	1890s	1900s	Total
<b>Tuberculosis</b>	5	18	23	46
% within Cause	10.9	39.1	50.0	100.0
% within Decade	26.3	56.3	46.0	45.5
<b>Pneumonia</b>	1	2	3	6
% within Cause	16.7	33.3	50.0	100.0
% within Decade	5.3	6.3	6.0	5.9
<b>Exhaustion/ Debility</b>	0	1	6	7
% within Cause	0.0	14.3	85.7	100.0
% within Decade	0.0	3.1	12.0	6.9
<b>Cardiac</b>	2	3	3	8
% within Cause	25.0	37.5	37.5	100.0
% within Decade	10.5	9.4	6.0	7.9
<b>Suffocation/ Asphyxiation</b>	1	1	1	3
% within Cause	33.3	33.3	33.3	100.0
% within Decade	5.3	3.1	2.0	3.0
<b>Shot Escaping</b>	5	0	3	8
% within Cause	62.5	0.0	37.5	100.0
% within Decade	26.3	0.0	6.0	7.9
<b>Trauma</b>	4	1	2	7
% within Cause	57.1	14.3	28.6	100.0
% within Decade	21.1	3.1	4.0	6.9
<b>Gastrointestinal</b>	1	1	2	4
% within Cause	25.0	25.0	50.0	100.0
% within Decade	5.3	3.1	4.0	4.0
<b>Other</b>	0	5	7	12
% within Cause	0.0	41.7	58.3	100.0
% within Decade	0.0	15.6	14.0	11.9
<b>Total</b>	19	32	50	101
% within Cause	18.8	31.7	49.5	100.0
% within Decade	100.0	100.0	100.0	100.0

$$\chi^2 = 27.790; df = 16; p = .033$$

Table 5  
Manner of Death by Decade

Manner	Decade			
	1880s	1890s	1900s	Total
Natural Cause	9	29	44	82
% within Manner	11.0	35.4	53.7	100.0
% within Decade	36.0	90.6	81.5	73.9
Homicide	5	1	6	12
% within Manner	41.7	8.3	50.0	100.0
% within Decade	20.0	3.1	11.1	10.8
Suicide	1	0	4	5
% within Manner	20.0	0.0	80.0	100.0
% within Decade	4.0	0.0	7.4	4.5
Accident	4	2	0	6
% within Manner	66.7	33.3	0.0	100.0
% within Decade	16.0	6.3	0.0	5.4
Undetermined	6	0	0	6
% within Manner	100.0	0.0	0.0	100.0
% within Decade	24.0	0.0	0.0	5.4
Total	25	32	54	111
% within Manner	22.5	28.8	48.6	100.0
% within Decade	100.0	100.0	100.0	100.0

$\chi^2 = 41.457$ ;  $df = 8$ ;  $p < .001$