A recent application of the Saxe-Binford hypothesis in establishing social persona

Barbara Ann Holz

University of Nevada, Las Vegas

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The Thesis of Barbara A. Holz for the degree of Master of Arts in Anthropology is approved.

Chairperson, Dr. Bernardo Arriaza, Ph.D.

Examiner Committee Member, Dr. Alan Simmons, Ph.D.

Examiner Committee Member, Dr. William Gray Johnson, Ph.D.

Graduate Faculty Representative, Dr. Roberta Williams, Ph.D.

Dean of the Graduate College, Dr. Ronald W. Smith, Ph.D.

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ABSTRACT

An excavation and analysis of an abandoned cemetery located in Las Vegas, Nevada was used to test the Saxe-Binford hypothesis regarding social persona. A total of 128 individuals (117 nonveterans and 11 veterans) were disinterred. These remains were in various different states of decomposition, two different burial types (casket and copper box), three different burial locations, and age ranges between fetal and elderly adult (90s).

According to the Saxe-Binford hypothesis certain mortuary attributes should reflect social information. Attributes studied were burial location, burial type (coffin type, urn), headstone type, and associated grave goods. The boundaries of the cemetery sections, burial locations, depths of the deceased were unknown. Thus, archaeological as well as physical anthropological methods were used. These methods included: 1) archival research to acquire all information regarding the deceased, 2) metal detection to located metal caps establishing boundaries, 3) surface probing to establish depth, 4) ground penetrating radar to locate subsurface caskets and bodies not associated with caskets, and 5) the sexing, aging and minimum number of individual methods used by physical anthropologists.

This study only partially supports the Saxe-Binford model: a) children were buried in small plywood coffins, b) cremations were in copper boxes and adults were in regular sized coffins, and c) all veterans had two headstones. The following evidence does not support the model: a) females and males were
buried in the same area, b) veterans were buried with nonveterans, and c) the
grave goods and clothing did not provide evidence of the social persona of the
deceased.
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CHAPTER 1

INTRODUCTION

As a graduate student in physical anthropology and archaeology an interesting problem was presented to me on July 6, 1994. A colleague of mine at the Desert Research Institute in Las Vegas, Nevada, handed me a newspaper article about an abandoned veterans' cemetery in a redevelopment area of Las Vegas that Clark County was responsible to move. Of course, being a curious graduate student looking for a thesis topic I phoned the County. In this initial phone call I learned that indeed the cemetery was to be moved, but no information regarding the deceased within the cemetery existed. Therefore, if any information was to be obtained, archaeological and physical anthropological methodologies needed to be employed. The property had changed hands several times with no one claiming ownership. Records regarding the number of deceased, burial types, location of the bodies, and the boundaries of the cemetery within the metropolitan area were unclear. This was a mystery waiting to be solved. As far as I was concerned, in the words of the illustrious Sir Arthur Conan Doyle, "the game was afoot."

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Upon the approval of my committee chair and the County, the project was officially mine. The study of this modern cemetery provided a superb opportunity to test anthropological hypotheses regarding death and funerary practices.

Many anthropologists concerned with the study of social systems of past societies (e.g., religion, social organization, social persona, and economic cooperation) believe that the material remains associated with mortuary practices are an important tool for extracting such social information (Bartell, 1982; Bell, 1990; Binford, 1971; Brown, 1981; Buikstra, 1981; Chapman, 1981; Chapman and Randsborg, 1981; O’Shea, 1981; Quilter, 1989; Saxe, 1970 and Tainter, 1978). In the study of social systems from burial remains, most researchers hold certain major assumptions:

1) the deceased are given a set of representations of his or her various social identities or roles when alive so that their status or social position may be given material form after death (e.g., grave-goods, monuments, place of burial etc. 2) the material expressions of these roles may be compared between individuals. 3) the resulting patterns of role differentiation may be ranked hierarchically as divisions existing within the society under study. Consequently, the social organization of any society may be reconstructed and that society can be placed within a larger evolutionary framework according to its degree of organizational complexity (Pearson 1982:99).

This study deals with the aspect of social organization that Saxe (1970:7) and Binford (1971:17) refer to as social persona, defined as "the
composite of the social identities maintained in life and recognized as appropriate for consideration after death." According to Binford this is one of two general components of the social situation to be evaluated when an attempt is made to understand types of social phenomena symbolized in the burial situation. The second component is "the composition and size of the social group recognizing status responsibilities to the deceased" (Binford 1971:17). Within this second component evidence indicating:

correlations between the relative rank of the social position held by the deceased and the number of persons having duty status relationships vis-a-vis the deceased, and the facets of the social persona symbolically recognized in the mortuary ritual would shift and vary directly with the relative rank of the social position which the deceased occupied in life should be noted (Binford 1971:17).

During analysis the variables to be recognized are burial type, coffin type, sex, cause of death and location of deceased. In an attempt to determine the social persona of the population within the cemetery, this study will deal with the application of symbolism and role theory as presented below by Binford and Saxe.

Binford and Saxe built on Radcliffe-Brown’s early position in rejecting the earlier theories of burying the dead strictly for the reason of corpse fear. Radcliffe-Brown, in his ethnography of the Andaman Islanders, argues that in the death process:
A person occupies a definite position in society, has a certain share in the social life, is one of the supports of the network of social relations. His death constitutes a partial destruction of the social cohesion, the normal social life is disorganized, the social equilibrium is disturbed. After the death the society has to organize itself anew and reach a new condition of equilibrium (Radcliffe-Brown 1922:285).

Other researchers have subscribed to Radcliffe-Brown’s beliefs that “burial customs represent collective and ritual expressions of group feelings acting as a defense against an attack upon solidarity (Bartel 1982:39-40). Binford, in his 1971 study of mortuary rites and their potential, uses the symbolic quality of the burial custom to explain the social phenomenon of mortuary ritual. He explains that when studying mortuary ritual, there is an observed class of phenomenon that consists of technical and ritual acts. Within the technical phenomena, burial customs provide for the disposal of the potentially unpleasant body of the deceased. In the ritual phenomena, mortuary rites consist of the employment of a number of symbolic acts that may vary in two ways: in the form of the symbols employed and, in the number and kinds of referents given symbolic recognition. The forms of symbols may vary independently of their referents and vice versa (Binford 1971:16). Binford also proposes that in order to understand the social phenomenon of mortuary rituals, one must concentrate on the symbolism in a particular burial situation. For example, he warns that the "forms taken by symbols in mortuary practices
should not be confused with what is actually being symbolized. Thus, different disposal methods may have different significance in different societies" (Binford 1971:16). An excellent example would be societies that utilize cannibalism as a form of burial or death ritual. Within these groups cannibalism is seen as an expression of affection or aggression. Affectionate cannibalism, as explained by Sagan (1974:22), "consists of eating the bodies or parts of the bodies of dead kinsmen who have not been killed for that purpose but who have died a normal death." This is so much a part of the belief system that on the Amazon, the Tarianan and Tucanos drink mixtures of liquid made from the powdered remains of the cremated victim so that the virtues of the victim would pass into the drinkers. "The victims have died an ordinary death, and the eating of parts of their bodies is an integral part of the funeral customs of the tribe" (Sagan 1974:3).

Aggressive cannibalism is described by Sagan as the "desire to dominate or tyrannize another person or other people. For a cannibal, the ultimate satisfaction of vengeance is to eat one's victim." He describes an example of this type of cannibalism from Melanesia "as prisoners being taken in warfare and brought alive to the hamlet-group where they would be tortured before being killed and eaten" (Sagan 1974:5).

Symbolism in the interpretation of mortuary data is discussed quite relatively by both Binford and Saxe when it comes to burial types and associated grave materials. As stated by Tainter:
many archaeological studies have neglected the diversity of symbolic forms which may be employed in mortuary ritual, and have assumed instead that the most significant information may be derived from one data class: grave associations (Tainter 1978:119).

Tainter explains that other variables (e.g., type of interment facility, location of grave, etc.) should be included in the final analysis to derive social information.

Simply put, a symbol is an object used to represent something abstract. Examples are the monumentality of a headstone or the elaborateness of a coffin. In our society these items are interpreted as a symbol of wealth of the deceased, when in fact the deceased who is accompanied by one of these items after death could be someone of minimal income who was just frugal enough to save throughout his or her lifetime to afford it after death.

Saxe brings together evolutionary political theory, role theory, information theory, social-structural theory, and formal analysis to explain mortuary practices and their socio-cultural determinants. This commingling of theories arose from Saxe’s position that mortuary ritual is a medium in which social relationships entered into during life are represented at death. He also had strong disagreement for the cultural-historical climate of the time that viewed the various treatments of the dead (cremation, inhumation, and mummification) as being historical go-between or the result of outside influences. Saxe viewed cemeteries and their contents as having structure (in the systems sense) that has potential to inform the researcher of certain organizational principles underlying the associated community. A consequence of this is his focus on
levels of social complexity, inherited status, and the like (Brown 1995). While both Saxe and Binford had an interest in why particular populations maintained relatively uniform treatment of the dead and others produced contrastive ones, it is understandable that they should view all treatments as somehow role-defined on an individual basis (Brown 1995). As explained by Brown (1995), Saxe and Binford focused on patterned differences in the way that individuals were treated in death. Therefore, an individually oriented theory for linking archaeological remains to behavior was necessary. Extracted from Linton’s early work dealing with status and role, Saxe and Binford proposed role theory to deal with the problem of individual treatments (Brown 1995). This approach was very effectively used by Binford and Saxe and should be effective in this study.

Though his dissertation is a bit confusing, Saxe’s focus is clear: concentrating on a class of ethnographic data that is generally available to archaeologists, i.e., disposal-of-the-dead information (Saxe 1970:2). Saxe views his data from a holistic approach with an understanding that because archaeologists are faced with many forms of burial treatments, the significance of any one type of treatment cannot be fully understood without some knowledge of the whole set of treatments (Saxe 1970:3). The example used (similar to Binford’s symbolic explanation above) is that of the treatment of the flexed burial type:

the fact of flexing is meaningless alone.
It is only when we can figure out who is
flexed, who is not, the nature of the alternatives, and what the status differences are that are reflected in the formal variability, that we can say anything about the meaning of flexing. Mortuary practices are produced by a system and thus can only be understood by references to its place in that system (Saxe 1970:3).

In an attempt to understand the system, archaeologists must first understand the general ideas that Saxe believes are lying at the junction between role theory and social structural theory. He feels that when archaeologists "excavate a set of individuals they are not merely excavating individuals, but a coherent social personality who not only engaged in relationships with other social personalities but did so according to rules and structural slots dictated by the larger social system" (Saxe 1970:4).

The underlying foundation in Saxe's work is that archaeologists must understand the role of the dead among the living within different types of social systems. Along this same thought pattern, Binford explains that "there are two general components of the social situation to be evaluated when attempting to understand the types of social phenomena symbolized in any given burial situation" (Binford 1971:7). These components (explained above), the social persona and composition and size of the group, make up the concept of role theory and the Saxe-Binford hypothesis.

Both Saxe and Binford adopted a cross-cultural approach or perspective to test their hypotheses. Binford's sample comprised 40 non-state societies taken from the Human Relations Area files. Saxe's sample was made up of the
Kapauhu Papuans of New Guinea, the Ashanti of West Africa, and the Bantoc Igorot of Luzon (Philippines). Although Binford’s study was quite broad compared to Saxe’s, both are considered to have positive results. Binford concluded that:

variations among cultural units in frequencies of various forms of mortuary treatment vary in response to (a) the frequency of the character symbolized by the mortuary form in the relevant population and (b) the number and distribution of different characteristics symbolized in mortuary treatment as a function of the complexity and degree of differentiation characteristic of the relevant society (Binford 1971:25).

Saxe’s study was relevant in proving and disproving his eight hypotheses (hypotheses 1-4, were concerned with the way social personae were differentially represented within disposal domains; hypotheses 5-8 were concerned with the way different social structures are differentially represented among different burial types). Saxe’s work was also influential in confirming Binford’s later social approach to mortuary practices.

As stated by Chapman and Randsborg (1981:7) "the Saxe-Binford hypothesis and philosophical perspectives have formed the basis of many social analyses of mortuary practices within the last decade." With this in mind, I propose that the Saxe-Binford hypothesis presented above be tested at the abandoned Las Vegas cemetery.
Saxe’s hypothesis regarding the components of a given burial type, resulting in representing different social persona, will be examined here. If in fact the components of a given burial type do cooperate in representing different social persona, then it should be evident in this study. The case study that will be utilized consists of a population of 128, both WWI and WWII veterans and nonveterans, within two well defined burial types: caskets and copper boxes, and three well defined burial locations: regular stacked casket burials, cremations, infant burials, and mausoleum burials.

Therefore the two hypotheses to be tested using the raw data obtained from the Las Vegas cemetery are 1) different burial locations represent different social persona, and 2) symbolism in the form of burial types (cremation, casket, mausoleum) and material remains (grave association, coffin types, headstones, location of remains within a burial, and cause of death) will be important factors in establishing social information. Due to the inherited problems associated with the cemetery, certain field methodologies will be incorporated to: locate boundaries, locate burials, establish depth, and properly identify the deceased.
CHAPTER 2

THE CASE STUDY

This study of mortuary practices was based on data from an abandoned veterans cemetery and involved the analysis of 128 inhumations, eleven veterans, and 117 nonveterans, interred between 1967 and 1975. The veteran population includes two veterans from WWI and nine from WWII. The cemetery, formerly known as Sunset Garden of Memories Veterans Cemetery, was located in an older area of Las Vegas, Nevada. Ownership of the property reverted to Clark County and the City of Las Vegas after the previous owner defaulted on the property taxes. Death certificates were available for 110 of the deceased. Those that did not have death certificates were either unknown individuals or the certificates were lost. These records were used to obtain information on individuals relating to sex, age, religion, biological affiliation, military rank, and cause of death. Other information, such as type of coffin and fittings, style of dress and treatment of the corpse, whether inhumed or cremated, place of inhumation or disposal of ashes, and the type of monument if any, was obtained during exhumation (these methods are explained below).
The project area incorporated approximately 0.61 acres (2,486 m²) and was located south of Foremaster Lane, between Las Vegas Boulevard North and Main Street directly behind Davis Mortuary (Figure 1). On the north side of the property was the Davis Funeral Home, which has a block wall all the way around it, forming the physical north boundary of the subject property. On the east side of the property was a vacant lot and church. The east line of the parcel was fenced, and the fence formed the east boundary of the property. The south side of the property was a vacant lot with a chain link fence separating it from the property. This chain link fencing extended westerly to the northeast corner of the concrete crypt structure on the Palm Mortuary property. The west side of the property was a vacant lot, which was the only access to the subject property.

The property was catalogued on October 13, 1984, by members of the Clark County Nevada Genealogical Society. This cataloguing included inventory of the existing headstones, listing names to be checked with county records, and checking the names with death certificates. At the time it was noted that there were more names than headstones and some of the headstones were not associated with graves. This was addressed during field work. Problems were compounded by uncertainty of the cemetery’s boundaries and numbers of those buried. Although the legal description of the parcel was known, the actual boundaries of the cemetery were unknown. In other words, where were the bodies buried and in some cases who were they?
Figure 1. Location of the Sunset Garden of Memories Cemetery within Las Vegas.
In spite of the fairly recent use (late 1960s and early 1970s), there was much information lacking about the cemetery. The site seemed to have been planned, but the abandoned state of the cemetery made it appear as though the graves were haphazardly placed. Official records regarding the deceased were practically nonexistent. It was known that the burials were of four types: cremations, casket, mausoleum, and unidentifiable burials (unknown identification). The number of each type of burial was unknown. However, it was discernable that the majority of burials were casket interment. County records indicate that the cemetery held both veterans (World War I and World War II) and non-veterans. Interestingly enough, these records also show that the majority of the plots were legally sold twice, so some of the plots would contain two caskets, one on top of the other (depth unknown). Although records and maps indicating the location of the burials and original layout of the cemetery were located, their accuracy was questionable. Through discussions with past cemetery employees and county employees, it was learned that the cemetery was divided into two sections, the Christus section (where the cremations, casket and infant burials were located), and the mausoleum (Figure 2). The mausoleum burials were all casket types. Although documentation regarding the number or location of burials within the structure existed, its accuracy was also questionable (personal communication: Eddie Shields 10-22-94).
Figure 2. Schematic Diagram of the Various Sections and Subsections of the Sunset Garden of Memories Cemetery.
The acquisition of the data for this project, as in any archaeological/physical anthropological project, is very important in proving or refuting the hypotheses presented above. However, there are serious limitations (lack of definition of boundaries, number of deceased, types of burials) presented to the researcher regarding the case study chosen. Therefore, the methodologies utilized to recover the data become especially critical. The methodologies presented in the following chapter were chosen in an attempt to rectify these problems.
CHAPTER 3

METHODOLOGY

The methodological approaches incorporated into this study have been applied to locate the boundaries of the cemetery, burials, and headstones and to identify as much physical anthropological data as possible about the John and Jane Does. These methods include the use of archival research, metal detection, surface probing, ground penetrating radar (GPR), and the aging, sexing, and minimum number of individual (MNI) techniques employed by physical anthropologists.

Archival Research and Methodology

Prior to the disinterment there were many tasks required of the archaeological team. First and foremost was the extensive review of the death certificates of the deceased. Through the diligent efforts of County Administrative Assistant Bertha Warrick and her staff at Social Services, death certificates were acquired from the Department of Human Resources in Las Vegas and the Veterans Administration in Carson City. Not all death certificates were acquired.
Field Methods

In the field precautions such as the use of surgical gloves and paper masks were taken by the crew when handling the human remains. There are many communicable (infectious) diseases that can be transferred from the dead to the living via touching the bone or associated clothing of the deceased.

Establishing the boundaries of the cemetery and a grid layout of the plots was necessary for mapping purposes and to make sure that all the remains were disinterred. Headstones also needed to be located and traced for records and identification of the deceased.

After the death certificates were studied, all information acquired was matched to a name (if possible) on the genealogical society's list for future reference during disinterment. Once this portion of the background information was complete, it was necessary to inventory all exposed headstones. It was decided to trace all existing headstones with a carbon pencil and a single piece of 18 x 24 in. rough surface newsprint drawing paper. Large headstones for the veterans and adult burials were traced on a single piece of drawing paper. The remaining small headstones placed for adult, infant, and cremation burials were traced two or three to a page. The paper was laid on top of the headstone and the carbon pencil was rubbed over the headstone. This gave an excellent rubbing of the face of the headstone. Once all the exposed headstones were traced, it was necessary to locate plot markers to reestablish the original layout of the coffin, cremation and infant burial sections set up in
1967 (Figure 3). This was accomplished by locating the numbered metal caps placed in the center of each block within the Christus section through the use of a metal detector (Personal communication; Eddie Shields, 10-22-94).

**Metal Detection**

Metal detection is a method commonly used in land surveying, crime scene investigation, and in particular situations, archaeology. In land surveying this method is used to locate subsurface metals used by the surveyor to mark section corners, nails used for turnaround points, pipes, and rebar. In crime scene investigation the metal detector is used to conduct a detailed search of an area for buried evidence such as bullet casings. In this case, the metal detector was necessary to locate the metal plot markers, originally used in 1967, to reestablish the original grid of the Christus section (see figure 3).

"Metal detectors are electromagnetic devices that will detect conductive metals and some minerals whenever these substances come within the instrument's search area" (Killam 1990:107). The metal detecting instrument consists of an adjustable stem with hand grip on one end, and an antenna with transmitting and receiving coils, and a console or control box at the other end (Killam 1990). The detector sends out an electromagnetic field into the air and ground in the immediate area of the transmitting coils. This field enters the conducting objects (metal) and produces small circulating eddy currents. The power loss, resulting from the production of the eddy currents is picked up by the detector and a loud screech is produced by the instrument (Killam 1990).
Figure 3. Original Layout of the Coffin, Infant and Cremation Subsections.
A boustrophedonic (one from right to left, and the next from left to right) survey was performed by a single crew member with a Shawnstead 1300 metal detector in 3 ft wide sweeps. According to the map each block contains 48 grave sites. Each grave site can contain two individuals: one stacked on top of the other. The blocks are set up in rows of six, each numbered 1 through 6 with a corresponding A, B, C, or D block number on a metal cap. Each block of 48 has a corresponding number beginning with 201 in the southwestern block and ending with 603 in the northeastern block. Center line markers (also metal caps) bearing a surveyor’s cross indicating the end of one numbered block and the beginning of another. There were no block numbers or centerline caps visible at the surface and all but five of the numbered caps were located and all, with the exception of two, of the centerline markers were located. Once these markers were located, a lath with the corresponding number or centerline + was erected. Where markers were not located, measurements were taken from the lath, establishing plot length and width, to the area where the markers should be. This worked quite well. It was found that the lost metal caps were either nonexistent, deeper than expected, or way off of the established line (possibly moved by transient inhabitants using the area as a residence). The next step was to establish the location and approximate depth of the individual caskets, cremations, and infant burials.
Surface Probing

Once the grid of the cemetery was laid out, surface probing techniques as described by Killam (1990) and Morse et al. (1983) were employed. This was necessary to determine the depth of the concrete liners of infant and cremation burials, and to determine the boundaries of the Christus section. According to Killam (1990), the use of this technique in the discovery of a grave is very successful. This process is very time consuming, but if done properly it can produce pertinent information on grave location and depth.

The probing device used was a 5/16 in. diameter stainless steel rod (approximately 4 feet long with sections fastened together for more length) with a T-shaped handle on the operator’s end and a ball on the opposite end (a pointed end can also be used but a ball is less damaging to the bone) (Figure 4). During probing, searchers attempted to detect the differences in disturbed and undisturbed soil (Killam 1990:46). A coarse probing pattern was utilized. All probing efforts were done slowly and in an uphill direction. Crew members stood with their hands on their hips, elbows touching the elbows of adjacent searchers. This established a center-to-center search pattern approximately 75 cm apart. Each searcher straddled approximately 50 cm of ground with another 25 cm between the feet of adjacent probers, inserting the probe at the center of the straddled area. If there was a lack of contact, the searcher would take one full step forward and probe again (Killam 1990:44). Morse et al. (1983) also suggest the use of this method in the detection of human remains
Figure 4. T-Handled Device used during Surface Probing.
on archaeological sites. The use of this technique proved to be productive. It was noted that the coffin burials were not at a set depth. While the majority of the stacked burials were 4-5 ft deep, five of the stacked burials in sections 401 C and 402 D were only 0.4 - 0.8 ft deep. Three buried headstones and two headstones not associated with any remains were also found. Probing also revealed several concrete liners containing caskets without headstones.

Ground Penetrating Radar (GPR)

Ground penetrating radar is a popular detection device used by geologists and law enforcement agencies. GPR is utilized in geology to locate subsurface geologic land forms. In crime scene investigation GPR is utilized in the location of buried human remains, buried and or hidden objects. The basic principle is similar to that of any radar system. According to Strongman:

An electromagnetic pulse is directed down through the ground and is partially reflected by any change in the bulk electrical properties of the ground. This change usually correlates with a change in volumetric water content and may indicate a change in bulk density. The reflected energy is detected by the receiving antenna which measures the delay time (difference between transmitted and reflected returning signal). The signal or pulse is repeated many times a second as the transmitter/receiver is moved across the surface interpreting the transmitted/reflected signals. A cross-sectional view of the subsurface is the result of the interpretation and is recorded on a paper printout which graphically displays the varying layers of soil (strata) as well
as any other objects which may be buried below the surface (Strongman 1987:4-5).

This particular method was utilized to locate the concrete liners and any other buried objects.

**Physical Anthropology**

In the event that unidentified remains were exhumed or more than one individual was located within a plot, the remains were sexed, aged and the minimum number of individuals (MNI) (identification of the right versus the left sides) was determined. Three texts were utilized in the field for reference: Bass (1971), Morse et al. (1983) and Schmid (1972).

**Sexing**

The state of preservation of the remains allowed the use of these specific pelvic traits to determine gender: the presence or absence of the ventral arc, width of the medial aspect of the ischiopubic ramus, width of the subpubic angle, elevation of the sacro-iliac articulation, width of the sciatic notch, and presence or absence of a preauricular sulcus, maximum diameter of the head of the left femur, and bycondyilar width. Through the development of specific techniques derived by such noted physical anthropologists as Birkby (1966), Brooks (1955), France (1983), Gill (1984), Morse et. el (1983), and Ubelaker (1978) physical anthropology is also being used to assist police officials in solving murder and missing persons cases. According to Bass, "there are three characteristic areas of the female pubis and ischiopubic ramus that serve to
distinguish the sexes in over 95% of cases: the ventral arc, the subpubic concavity, and the medial aspect of the ischiopubic ramus (Bass 1971:201).

The ventral arc is a slightly elevated ridge of bone that takes a course across the ventral surface of the female pubis.

The subpubic concavity is a lateral curvature a short distance inferior to the symphysis in the female. This is best observed from the dorsal surface of the bone.

In the female, the medial aspect of the ischiopubic ramus presents a ridge or narrow surface immediately below the symphyseal surface (Bass 1971:201-02).

Sliding calipers were used for measurement. The numbers acquired from the measurements were compared to the values in Table 1 below and compared to the information acquired from the pelvis.

| Table 1. Rules for Sexing the Femur *a. |
|-------------------|-----------------|-----------------|-------------------|-----------------|
|                   | Female | Female? | Sex? | Male? | Male |
| Vertical diameter  | < 41.5 | 41.5-43.5 | 43.5-44.5 | 44.5-45.5 | > 45.5 |
| Bicondylar width   | < 72   | 72-74   | 74-76 | 76-78 | > 78 |

aAll measurements in mm.

Four unknown bodies were evaluated. One was an infant whose sex was impossible to determine. The remains were very soggy and the material items associated with it did not give any indication of sex. The remaining three unknown individuals were all males. One was a mausoleum burial that was very well preserved. The determination of sex and age in this particular case

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was based on clothing, morphological characteristics of his face and death certificate. For the remaining two individuals the pelvis was evaluated for the traits mentioned above, and the vertical diameter of the left femur head and bicondylar width were measured. The combination of the pelvic traits and the measurements indicated they were males.

Aging

The age of unknown individuals was estimated based on tooth eruption and stages of epiphyseal union. For this study a precise age was not given. The categories of infant (Birth - 1 yr) child (1 - 12 yrs), subadult (13 - 21 yrs) and adult (22+) were established. In the determination of age using tooth eruption patterns the information from Figure 5 "Dental Development" below was used. For the estimation of age using stages of epiphyseal union the information from Table 2 "The Age Distribution for Stages of Union for the Long-Bones" below was utilized.

Minimum Number of Individuals (MNI)

The County required that the physical anthropologist check all graves for verification of one individual per casket per grave site. This was accomplished by inventorying all remains to determine sets of right versus left sides. The methodologies presented above were very helpful in making the disinterment and reinterment process go smoothly.
Figure 5. Dental Development.

- 5 MONTHS IN UTERO (± 2 MOS)
- 7 MONTHS IN UTERO (± 2 MOS)
- BIRTH (± 2 MOS)
- 6 MONTHS (± 3 MOS)
- 9 MONTHS (± 3 MOS)
- 1 YEAR (± 4 MOS)
- 18 MONTHS (± 6 MOS)
- 2 YEARS (± 8 MOS)
- 3 YEARS (± 12 MOS)
- 4 YEARS (± 12 MOS)
- 5 YEARS (± 16 MOS)
- 6 YEARS (± 24 MOS)
### Table 2. Age Distribution for Stages of Union for the Long Bones. *a*

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*a*All figures represent percentages.
CHAPTER 4

DISINTERMENT AND REINTERMENT

The disinterment process began on July 7, 1994, when Clark County government officials announced their plans to move the abandoned cemetery. The process ended on December 6, 1994 when the last remains were reinterred at the Paradise Memorial Gardens in the Garden of Mercy section. A total of 128 remains were relocated.

The field work was the most important step in this process. It needed to be done in a quick, orderly, and ethical manner. A grid of the cemetery was laid out prior to the disinterment and all plots were staked and numbered. The list of the deceased and headstones were checked as graves were located and removed. The Richardson Corporation, a mortuary from Owensville, Kentucky, was hired to disinter the remains. They were required to come prepared with their own equipment, which consisted of a backhoe, approximately 200 wooden boxes for the remains, and 5 experienced crew members.

Prior to the excavations several crew members from The Richardson Corporation made up two different sized wooden boxes for the remains: small (3 ft x 18 in x 12 in) and large (5 ft x 18 in x 18 in). Most of the excavating

31
was done with a backhoe. Surface probing and hand shoveling were utilized when the backhoe operator felt he was in a grave.

The archaeological crew was made up of one physical anthropologist and three archaeologists. Prior to the disinterment the archaeological crew established the boundaries of the cemetery allowing the fieldwork to go smoothly. They were also required to record all information regarding the deceased. This included casket type, location within the cemetery, headstone type, association with or without headstone, identification, sex, age, photographing, and any material remains found with the deceased. The information was recorded onto grave data sheets (Appendix 1). The state of preservation of the remains was also recorded. This included completeness, state of the remains (wet or dry), any impacts to the bone such as root damage and orientation of the remains. During the initial stages of fieldwork the archaeological crew noted that all the burials within the Christus section were in concrete liners.

The Christus section which contained coffin burials, cremations and infant burials was excavated first (see Figure 2). The mausoleum was entered on the last day of field work. All of the rows in the Christus section were numbered prior to disinterment. Excavations were handled row by row beginning with row one oriented south to north at the eastern end of the cemetery. When the backhoe excavated to a depth of 4 ft or a change in soil compaction or color was noted, a Richardson Corporation crew member would
begin hand probing in the trench. Certain shallow areas noted during the initial
probing by the archaeological crew were pointed out to the backhoe operator.
When these areas were approached, hand excavations with a square nosed
shovel and trowels was performed. Once a grave was located the backhoe
shut down and the top of the concrete liner was removed and the casket
exposed. It was determined what size box was appropriate for the remains,
who the deceased was, and the sex of the remains. All material remains
associated with the deceased were reinterred with the remains.

The Christus Section

This section was divided into three subsections: regular stacked coffin
burials, cremation, and infant burials (see Figure 3). This section contained the
most burials and showed the most diversity in burial types.

Regular Stacked coffin burials

This subsection was the most populated. It was noted during
excavation that the coffins were in either concrete or fiberglass liners.
Surprisingly enough the fiberglass liners were in very good condition. It was
the concrete liners that had given away to the shifting of the earth and water.
The remains in the fiberglass liners (only two deceased) were in metal caskets,
very wet but very well preserved. These remains were in a mummified
condition with 90% articulation (Figure 6). The caskets were rusted but the
interior casket liners were intact down to the material type and color. On the
Figure 6. Mummified State of Preservation of Remains in Fiberglass Liners.
exterior the handles and manufacturer labels were still present. One set of these remains, a female, was reinterred in the same casket. The other set of remains, a male, was put in a large wooden box due to the deteriorated state of the metal casket.

The majority of the remains in concrete liners were in wood coffins. These remains were exposed to the subsurface elements (water, insects, and root activity). Upon the opening of the concrete liners the coffins had collapsed onto the remains. The remains were either very wet with no articulation or dry with only 20-40% articulation. Material remains were observable only within the dry coffin environment. These items included dentures, clothing, slippers, eye glasses, mouth forms, eye forms, wigs, and jewelry. There were 43 nonveteran males, 10 veteran males, and 18 nonveteran women disinterred from this section. Two within this population were in fiberglass liners 1 man and 1 woman.

Cremations

The cremations were also placed in concrete liners. Urns were not present. The deceased were sent to a San Bernardino crematorium and the ashes sent back via air mail to the Sunset Garden of Memories Cemetery. Upon opening the concrete liners it was noted that the cremations were kept in copper-lined boxes within the shipping package from the crematorium (Figure 7). These remains were dry but in a poor state of preservation. Upon the opening of the concrete liners it was noted that the shipping packages had
Figure 7. Copper Boxes Containing Cremations.
opened and the bone fragments left from the cremation process were eroding from the sides of the cardboard boxes. This was the least populated area within the cemetery boundaries. There were 14 disinterred from this section 9 males, 3 females, one veteran and one unknown. This section also contained the highest number of suicides totaling five (4 males and 1 female).

Infant burials

Infant burials were dry although some of the still born remains were damp due to the embalming process. The stillborn remains were too small to embalm and were placed on a blanket that was soaked with cavity fluid (morticians term for embalming fluid). A sawdust type mixture was sprinkled on the remains to soak up smells from cavity fluid, wrapped in plastic and put in a casket (R. Rose, personal communication, 1994). These burials were in concrete liners. Upon the opening of the caskets these remains were very damp (Figure 8). All the infant caskets were wooden caskets and all, except one, had plastic handles. These contained decorative material inside and out. The one exception was a homemade casket of plywood that was lined with a colored polyester liner and, lacked handles. There were 33 infants disinterred 15 males, 17 females and one unknown (no death certificate and remains were to wet to sex or age).
Figure 8. Damp State of Preservation of Infant Remains.
The Mausoleum

This section exhibited the least amount of diversification of burial types.
The remains in the mausoleum were very dry and were in an excellent state of
mummification (Figure 9). Exhumation of the deceased within the mausoleum
was performed on the last day of fieldwork. This was due to the uncertainty
of the number of the remains and the method of entry into the structure.
Approximately five years prior to the disinterment of the cemetery the entrance
to the mausoleum was walled in to keep out the transient population in the
area. There were several complaints by surrounding businesses, veteran
groups, and relatives of the deceased that caskets were vandalized and the
remains left on the floor of the structure.

Entrance into the mausoleum was performed with a concrete saw, a
sledge hammer and the backhoe. This began by first cutting a small opening
into the cinder block with the concrete saw. Once this was accomplished the
backhoe was used to loosen the area then sledge hammering took the section
out. The hole was made large enough for people to enter and exit with the
coffins. The crew was given a map of the north and south walls that contained
names and locations of the deceased. These names needed to be compared to
the names on the plaques on the walls that were associated with the caskets.

The removal of the remains went very smoothly. It was noted at this time
that there were no names on plaques associated with the bodies. The
disinterment was performed row by row beginning with the top rows
Figure 9. Excellent State of Preservation of Remains within Mausoleum.
working west to east. The marble facades were removed with a crowbar and the cardboard face taken down. If a casket was present it was numbered, removed and compared to the map for identification. It was also noted that there were more bodies in the mausoleum than the map had listed. The original list contained nine names but ten bodies were disinterred. Problems were compounded by bodies not matching slots. Four of the caskets on the south wall were not in the slots specified. Two sets of married couples were on the map. One set in the south wall and one set in the north wall. Only one pair was located, and the male of the second pair. One advantage was the state of preservation of the remains, and associated material remains of the deceased. Death certificates were examined for age at death, and relatives were phoned and questioned as to the types of clothing, jewelry, eye glasses and false teeth the deceased were buried with. One set of remains was located in a slot that, according to the records, should have been empty. The remains were those of a young female whose name was not on the list of deceased. The remains were identified due to a piece of paper taped to the top of the of the casket. Ten burials (7 males and 3 females) were exhumed from the mausoleum nine of those were positively identified the tenth was an unknown male. These remains were left in the original caskets for reinterment. These burials were not in concrete liners. They were entombed in crypt structures with marble facades.
Reinterment

Once the deceased were disinterred and put into the appropriate sized box it was numbered. The boxes were then placed on a trailer and brought to the reinterment site. The reinterment site was a plot set up by Palm Mortuary at their Sunset and Eastern Road Cemetery (Appendix 2). The deceased were reinterred side by side. A single marble wall was erected with names of the reinterred engraved on it.
CHAPTER 5

DISCUSSION OF FINDINGS

One hundred and twenty eight burials were exhumed from the Sunset Garden of Memories Cemetery. They consisted of veterans and non-veterans, four different burial types and various different age ranges.

According to the Saxe-Binford hypothesis social persona is the composite of the social identities or roles maintained in life and recognized as appropriate for consideration after death. These social identities should be evident after death in burial location, and represented symbolically in coffin type, treatment of the corpse, monuments, and grave-associations. During analysis one would expect a correlation between these symbolic forms and different social persona. Expected findings will be compared to the actual findings and frequency distributions calculated. The expected findings of the social persona of veterans and nonveterans are presented below.

Veterans

It would be expected that a veteran would be interred with material items exuding a military social persona. These items would be specific to rank, military service, and length of service. Such items would include being buried
in uniform indicating veteran role status during life, as well as rank. It would also be expected that a veteran would be buried with metals earned during the military career as well as a gun, or United States flag.

A veteran should also differ from a nonveteran regarding burial location within the cemetery. Considering the County’s records specifically listed this cemetery as a Veterans’ cemetery, a special place within a given section should be reserved for veterans.

There should also be a difference between where an officer is interred as opposed to an enlisted veteran. It would be assumed that an officer would be interred in the upper portions of the designated veteran area. A noncommissioned officer on the other hand might be in the lower reaches of the designated veteran area.

We should also see a difference in coffin type. There should be a direct correlation between coffin type and a veteran. The veteran should have a distinct location within the cemetery with corresponding coffin types. These coffin types should be uniform in material (wood or steel) and type (oblong or plain octagonal). This would also be the case within the cremation section. A veteran should be interred in a cremation urn exhibiting status during service time. Quite possibly with name and rank engraved upon it.

This is also true for headstone type. Veterans should have a monument that sets them apart from any nonveteran interred. Exhibiting name rank and branch of service. This should be evident upon site such as it is at Arlington
Park National Veterans Cemetery in Washington D.C. Here, all the veterans, from private to commissioned officer, have white wooden crosses erected specifically indicating veteran status.

Nonveterans

There should also be distinguishing features to delineate the social persona of nonveterans. As the veterans have a separate burial location the nonveterans would populate the remainder of the cemetery. A nonveteran would be interred in an area within the cemetery separate from the veterans. A lawyer might be interred in the mausoleum whereas a blue collar worker would be interred within the least expensive plots. Males would be separate from the females. Within two well defined burial sections. Individuals who died of natural causes would be buried separate from those who died of suicide. Just as cremations would be located specific areas separate from subsurface casket burials. Infants would also have a separate location.

We should also see a correlation between the nonveteran and coffin type. This type coffin would be either wood or steel varying from individual to individual in style and shape.

It would also be expected that cremations would be treated differently. For those individuals inhumed in this burial type the remains would be contained within an urn. Of course with those of higher status in more expensive urns and those of lower status either in urns or burial containers issued by the crematorium.
The nonveteran headstone should also vary in material type and size. There would be marble and or granite represented. According to Clark (1987) granite is the more expensive of the material types. It is much harder than marble therefore making engraving more difficult, and size a factor. The higher status individual would be interred with the granite whereas the lower status individual interred with marble.

Material type then would have a direct correlation between both size and shape. An inhumation that once held a professional role status in life might have a larger more elaborate monument of granite. This would be a distinct headstone, containing the name of the deceased, dates of birth and death, and an epitaph. Whereas an inhumation who once held blue collar role status might be interred with a less expensive marble monument lacking monumentality and epitaph. It would also be expected that all inhumations would be associated with a headstone of some type.

Grave associations would also differ dramatically from a veteran to nonveteran. These items would include civilian clothing revealing the role the deceased once held before death, versus a uniform. Nonveterans might be interred with something that gives the researcher an indication of their occupation during life. For example, a hair dresser might be buried with a pair of scissors or, a physical anthropologist might be buried with a trowel and a copy of William Bass's "Human Osteology".
Infant inhumations would reflect the social status of the parents through such symbolism as grave associations, coffin type and headstone type also. Infants might be buried with such material items as colored blankets indicating sex, rattles and colored booties. Coffin types might be of wood or steel with size correlating with the age of the individual. Another words infants would not be interred in an adult size casket.

It would also be expected that infants would be separate from adult burials, cremations and veterans. These burials should also have a separate and distinct area within the cemetery. However, I do not think there would be infants located within the mausoleum.

The Actual Findings

The actual findings for this case study are presented throughout the remainder of this chapter. The caskets utilized were of either wood or 20-gauge steel. The wood caskets were made of ash and covered with a light blue printed material. According to Ron Rose there were two types of caskets used: the 1/2 couch type where the lid is divided into 2 pieces (Figure 10) and full couch where the lid is one piece (Ron Rose, 1994, personal communication) (Figure 11). The caskets were considered to be the ‘low end’ of the Elgin Manufacturer price spectrum. Ornamentation varied from the wood to the steel coffins. The ornamentation on the wood caskets was cast aluminum ranging
from the simple four handle (Figure 12) to the swing bar (Figure 13). There was only one metal coffin located within the mausoleum that was ornately decorated (see Figure 12). This was a full couch metal coffin that contained cast aluminum corner ornamentation as well as rather ornately decorated swing bar handles. The wooden caskets were tacked together and made from slats of wood (Figure 14). The steel coffins were one piece molded 20-gauge steel. The coffins in the infant section were made of plywood with plastic handles and decorative material as interior liners. The shapes of the coffins were of two types: plain oblong or octagonal.
Figure 10. The Half-Couch Coffin Type.
Figure 11. Full-Couch Coffin Type.
Figure 12. Simple 4-Handle Cast Aluminum Ornamentation.
Figure 13. Swing Bar Type Ornamentation.
Figure 14. Wood Slats containing Tacks.
The majority of the coffin types located within the cemetery boundaries are of the wood, single handle, plain oblong shaped (see Figure 10).

The cemetery was divided up into two main sections the Christus section and the Mausoleum (see Figure 2). The Christus section contained two subsections: the regular stacked coffin burials, infant and cremations (see Figure 2). According to Table 3 the largest and most populated was the regular stacked coffin burial subsection consisting of 43 nonveteran males, 10 veteran males and 18 nonveteran females. The cremation and infant burials were situated along the western boundary (see Figure 3). The plots within the regular stacked coffin subsection were placed one on top of the other. The lower burial at an approximate depth of 7 ft with the upper ranging in depth from 9 inches to 4 ft. The burials within the infant and cremation sections were laid side by side. Within the cemetery boundary was also a mausoleum. This was the least populated section consisting of 10 coffin burials. All of the burials in the Christus section, except one, were orientated with the head facing the west and hands folded on the abdomen. The one exception was a Jewish individual who was orientated toward the east. This was a religious preference. The casket contained a plastic bag containing his internal organs. The burials in the Mausoleum were placed either on the north wall or the south wall. The remains within the north wall were orientated to the south. The remains within the south wall were orientated towards the north.
Table 3. Burial Types, Coffin Material types and Location of Males and Females within Specified Burial Types.

<table>
<thead>
<tr>
<th></th>
<th>Nonveterans N = 117</th>
<th>Veterans N = 11</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td>UKN</td>
<td>Females</td>
</tr>
<tr>
<td>Regular Stacked Coffin Burials</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wood</td>
<td>37</td>
<td>17</td>
<td>9</td>
</tr>
<tr>
<td>steel</td>
<td>6</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>43</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td>Cremation copper box</td>
<td>9</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>unknown*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Infants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wood</td>
<td>15</td>
<td>17</td>
<td>--</td>
</tr>
<tr>
<td>steel</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>Mausoleum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wood</td>
<td>4</td>
<td>2</td>
<td>--</td>
</tr>
<tr>
<td>steel</td>
<td>3</td>
<td>1</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>3</td>
<td>--</td>
</tr>
</tbody>
</table>

Totals 74 2 41 11 -- 128

*Unknown individual impossible to sex or age due to poor state of preservation of the remains.

Headstone types were also recorded. Within this case study, only marble headstones were noted. Traditionally, a granite monument costs twice as much as a marble monument of the same size. Marble is softer than granite, therefore making carving easier, less time-consuming, and cheaper (Clark 198:387). The size varied but the material type was consistent throughout the cemetery. Headstones representing infant and cremation burial were small (1
ft x .5 ft) and contained only a metal plate containing the name and year of birth and death. Headstones for the regular stacked coffin burials within the Christus section measured 1.8 ft x .8 ft and contained the engraved name of the deceased and years of birth and death. The veterans within this section had two headstones. One issued from the branch of service they served in, measuring 2 ft x 1 ft, containing the engraved name, rank, and state, and dates of birth and death. The second headstone was the common type for this section containing the engraved name and dates of birth and death. All headstones were flush with the ground.

Burials located within the mausoleum were not associated with headstones. The only headstone like features were marble facades on the front of the slot opening. These facades did not contain names or dates.

Associated grave goods were practically non-existent. Only four of the cemetery population were interred with material items. Three females and one male from the Christus section were associated with grave goods. These items consisted of eyeglasses, wedding rings, a copper brooch, dentures, clothing, slippers, wigs, and a rosary of plastic beads and cross. Other grave-associated items included mouth forms, eye forms, embalming fluid bottles, wigs, and false teeth. These items are used by morticians in the preparation of the deceased for the viewing portion of the funeral service.

As stated earlier, the regular stacked coffin burials within the Christus section was the largest, and most populated. Within this section 43 nonveteran
males, 10 veteran males and 18 females were disinterred. Tables 3 and 4 illustrate the findings from this section. One suicide, a 30-year-old male, and one homicide, a 39-year-old male, were disinterred from this section. Age ranges for the males disinterred without headstones were 36 - 44, 54 - 59, 61 - 68, 74 - 78, and 84 - 96. Age ranges for the males disinterred with headstones were 13, 30, 42 - 49, 51 - 58, 61 - 69, and 70 - 76. Age ranges for the females disinterred without headstones were 33 - 43, and 58 - 85. Age ranges for those females disinterred with headstones were 39 - 41, 48 - 54, 61 - 69.

The infant subsection contained 33 individuals. Tables 3 and 5 illustrate the findings of this subsection. All of the infants except one were in plywood caskets containing plastic handles. These caskets were glued together and not tacked. The one not in a casket was a stillborn in a plastic container. Ages within this subsection were stillborn to 5 months. The subsurface environment in this section was very dry.

Within the cremation subsection 14 individuals were disinterred. Tables 3 and 6 illustrate these findings.
Table 4. Presence or Absence of Headstones within the Regular Stacked Coffin Subsection N = 71.

<table>
<thead>
<tr>
<th></th>
<th>Males N = 43</th>
<th>Females N = 18</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonveterans</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With Headstones</td>
<td>24</td>
<td>9</td>
<td>33</td>
</tr>
<tr>
<td>Without Headstones</td>
<td>19</td>
<td>9</td>
<td>28</td>
</tr>
<tr>
<td>Veterans</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With Headstones</td>
<td>10</td>
<td>--</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>71</strong></td>
</tr>
<tr>
<td>Nonveterans With Headstones:</td>
<td>Males N = 43</td>
<td>Females N = 18</td>
<td>Total</td>
</tr>
<tr>
<td>With Headstones</td>
<td>24</td>
<td>9</td>
<td>33</td>
</tr>
<tr>
<td>Without Headstones</td>
<td>19</td>
<td>9</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>71</strong></td>
</tr>
</tbody>
</table>

*Total veteran population within this subsection.

Table 5. Presence or Absence of Headstones within the Infant Subsection N = 33.

<table>
<thead>
<tr>
<th></th>
<th>Males N = 15</th>
<th>Females N = 17</th>
<th>UKN*</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Headstones</td>
<td>9</td>
<td>7</td>
<td>--</td>
<td>16</td>
</tr>
<tr>
<td>Without Headstones</td>
<td>6</td>
<td>10</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td>1</td>
<td><strong>33</strong></td>
</tr>
</tbody>
</table>

*this individual was unidentifiable due to poor state of preservation. The two sets of twins (one consisting of two females; one consisting of male and female) shared caskets; therefore they were counted as one male and 1 female.
Table 6. Presence or Absence of Headstones within the Cremation subsection

<table>
<thead>
<tr>
<th></th>
<th>Males N = 10</th>
<th>Females N = 3</th>
<th>UKN*</th>
<th>Total</th>
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<tbody>
<tr>
<td>Non veterans</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With Headstones</td>
<td>6</td>
<td>1</td>
<td>--</td>
<td>7</td>
</tr>
<tr>
<td>Without Headstones</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Veterans</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With Headstones</td>
<td>1</td>
<td>--</td>
<td>--</td>
<td>1</td>
</tr>
<tr>
<td>Without Headstones</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>3</td>
<td>1</td>
<td>14</td>
</tr>
</tbody>
</table>

* Of this total one individual was disinterred as an unknown; therefore sex and age were unobtainable.

The one veteran disinterred from this section had two headstones one from the branch of service he participated in and one large size headstone. The ages of the male population in this section were 45, 47, 51, 53, 54, 58, 61 and 73. Two of the males were lacking death certificates so ages were unobtainable. The ages of the female population was 37, 72 and 84. Of the cremation population disinterred, the cause of death of five of the individuals was suicide. Of these, four were males with ages of 45, 54, 58 and 61, and one was a young (age 37) female. All of the suicides were associated with headstones with the exception of the 45-year-old male.
The mausoleum was the least populated section with 10 individuals disinterred. Table 3 above illustrates that of the total population seven were males and three were females. This same table indicates that six of the deceased were in wooden coffins and four in steel. Of these, one was a 23-year-old male homicide victim. The male ages were 19, 23, 66, 67, 70, and 71. One male was of unknown age and identification (the coffin was unpenetrable). The females ages were 25, 49 and 53. None of the deceased within this burial location were associated with headstones. The environment inside the mausoleum was very dry and extremely dusty. The remains disinterred were in a mummified state of preservation.
CHAPTER 6

ANALYSIS AND CONCLUSIONS

Both statistical and nonstatistical techniques were employed in the analysis of the mortuary practices at the Sunset Garden of Memories Cemetery. Quilter, in his study of the Paloma burials, states the importance of this analytical approach. According to Quilter,

statistical studies allow for the establishment of the degree of strength or confidence of association in the observed patterning of data in mathematical terms of considerable precision. They permit the determination of complex patterning, such as the interrelations of several variables, which might otherwise be difficult to detect.

Nonstatistical studies are often better at noting singular or unique characteristics of data of significance (Quilter 1989:45).

In this study nonstatistical techniques will be the major type of analysis. The statistical technique is in the form of "frequency distributions" and will be used to support the outcome of the former nonanalytical technique. According to Tainter (1978:118), mortuary attributes utilized in mortuary analysis should be selected carefully. The criterion for selection must be that such attributes display common variance. This, of course, has a bearing on what types of analysis the researcher chooses to use. The mortuary attributes to be

61
discussed for this population are: 1) burial location, 2) coffin type, 3) headstone type (monumental or lack thereof), 4) burial type and 5) associated grave goods as they relate to the separate hypotheses.

For analysis, within the realm of symbolism, one must take into consideration the warnings of archaeological inference by Binford (1971) and Bell (1989). "Forms taken by symbols in mortuary practices should not be confused with what is actually being symbolized. Thus different disposal methods may have different significance in different societies" (Binford 1971:16). Bell states that:

given the limitation of status-based approaches to historical mortuary data, less confidence should be placed on the reliability of mass produced coffin hardware as an unequivocal indication of socioeconomic rank of interred individuals (Bell 1990:72).

This warning is taken into consideration within this study. However, a known variable (in the form of death certificates-giving us occupation information) refutes this warning. The raw data compared to the actual findings of other such indicators as coffin type and headstones also prove that the reliability of mass produced coffin hardware can be used as an indicator of socioeconomic rank.

Hypothesis one regarding different burial locations as being representative of different social persona is only partially confirmed from the analysis of the actual findings. Reiterating on the Saxe-Binford definition of
social persona that "the composite of the social identities or roles that an individual maintained in life could be recognized as appropriate for consideration after death" (Saxe 1970:7, Binford 1971:17) is not completely represented here. As the frequency distributions indicate below there is no evidence separating a veteran persona from a nonveteran persona.

An examination of Figure 15 reveals a 92% frequency of the deceased, both veterans (11) and nonveterans (107), were disinterred from the Christus section. Spatially, within this location, all the deceased were haphazardly placed. There are no preferences for males versus females or veterans versus nonveterans. All of the spaces within the regular stacked coffin section are considered to be double depth, according to Table 7 below, at a price of $150.00 per plot. The price list also indicates that a veterans grave site is $230.00 however, these deceased showed no special placement within this section. During disinterment, in all cases, the veterans were located in stacked plots ($150.00) in seven out of the 10 cases the veterans were placed in bottom plots. Females did not receive preferential treatment over males. According to Figure 15 eight of the women disinterred from the regular staked coffin burials were on the bottom and 10 were in the top position. Due to this randomness it can be concluded that placement is based on time of death. This is confirmed by the dates on the death certificates. Any deceased placed in a bottom plot died first, veteran or nonveteran. This is also the case for veterans of the different wars.
Figure 15. Distribution of Veterans and Nonveterans within the Regular Stacked Subsection of the Christus Section.
World War I veterans did not receive any special treatment over World War II veterans. Veterans were placed in a top plot due only to the time of death. If the veteran died first he was placed on the bottom and a civilian placed on top.

Figure 15 also indicates that within the regular stacked coffin subsection two unknown males were disinterred. These unknown individuals were not located with headstones nor were they on the original map of the cemetery. The sexing and aging methodologies presented in Chapter three were utilized and it was concluded that they were males of adult age. Spatially this

<table>
<thead>
<tr>
<th>Choice Section</th>
<th>Mausoleum</th>
<th>Infant and Cremation</th>
</tr>
</thead>
<tbody>
<tr>
<td>site</td>
<td>$270.00</td>
<td>$795.00</td>
</tr>
<tr>
<td>top 2 rows</td>
<td>-----</td>
<td>$595.00</td>
</tr>
<tr>
<td>middle 2 rows</td>
<td>-----</td>
<td>$645.00</td>
</tr>
<tr>
<td>eye level rows</td>
<td>-----</td>
<td>$795.00</td>
</tr>
<tr>
<td>companion</td>
<td>-----</td>
<td>$1,495.00</td>
</tr>
<tr>
<td>Veteran site</td>
<td>$230.00</td>
<td>-----</td>
</tr>
<tr>
<td>Double depth</td>
<td>$150.00</td>
<td>-----</td>
</tr>
</tbody>
</table>
| Infant and cremation site      | -----     | -----                | $100.00
represents two burial plots with three individuals. According to Figure 15, these plots were within the most populated area of the regular stacked coffin burials of the Christus section.

This is also the case for the cremation, infant and mausoleum burial locations. The cremation and infant subsections were the second most populated burial locations with a nonveteran-veteran ratio of 46:1 (Figure 16). This section is also interesting in that it held a 10.4% frequency of the suicides (see Figure 16). None were veterans. This burial location also ranks second on the cemetery price list with infant plots and cremation plots priced at $100.00. Tables 5 and 6 indicate a 43% occurrence of cremations interred without headstones, and a 51% occurrence of infants interred without headstones. According to Figure 16, the burials within this subsection were also haphazardly placed. Veterans did not receive preferential treatment, nor did infants or women. The only difference within this subsection is that these burials were laid side-by-side. The reason for this is the size of the plot. The regular stacked coffins were all adults, therefore, they required much more room due to the size of the coffin.

Infants were buried in much smaller wooden coffins, to accommodate the size of the body and save on space. In one case the deceased was a newborn, buried in a plastic case inside a cinder block measuring 15 x 7.5 x 10 in. This was very close to the size of the copper boxes (15 x 15 x 11 in.) that the cremations were interred in.
Figure 16. Distribution of Veterans and Nonveterans within the Infant and Cremation Subsection.
The adult cremations were not separated from the infant coffin burials. The only defining characteristics differentiating these two burial types were: 1) copper boxes or 2) wooden coffins. The age ranges for infants was birth to 3 months (birth certificate data) with a 32:1 ratio being interred in small wooden coffins, to plastic cases. One hundred percent of the cremations were interred in copper boxes.

The final section to be discussed is the mausoleum. This was the least populated area of the cemetery with 10 individuals disinterred. This consisted of a 7:3 male to female ratio. All were nonveterans. This section is comparable to the regular staked coffin subsection within the Christus section with a 53:18 male to female ratio. In the mausoleum area there is a definite correlation between the price of the plots and number disinterred. According to the price list in Table 7 for this section, the least expensive plots are the top two rows at $595.00, with the most expensive being companion plots at $1,495.00. The remaining plots were the middle two rows priced at $645.00 and eye level rows priced at $795.00. All of the individuals disinterred were from the eye level rows, the second most expensive plots available. This section also lacked suicides; these deceased were all interred within the less expensive subsurface plots. None of the deceased were associated with headstones. The only item marking the opening of the plot was a one-inch thick marble facade, with no name plate indicating who the deceased was. Within this population one unknown male was disinterred. This individual was
in a metal coffin (low end of spectrum--see Figure 11) that was ornately decorated.

The individuals within the mausoleum section were also haphazardly placed. According to the schematic that was given to the archaeological crew prior to field work, all the deceased were lumped together (e.g., if they were in the south wall they were in consecutive rows, same for the north wall). However, upon our removal of the marble facades they were spread throughout the eye level rows. There were bodies in plots that were supposed to be empty, and plots that should have contained bodies, empty. According to the age data, this section contained a 60% occurrence of adults (males and females) over the age of 50, indicating a natural cause of death (death certificates concur with this indication).

The analysis of the actual findings presented above, compared to the expected findings presented in Chapter 5 indicates that burial location within this cemetery is not an accurate indicator of social persona after death. If in fact the social persona is linked to burial location, then nonveteran (males and females), veterans (separated by rank and War), infants and cremations should be buried in separate subsections. The frequency distributions show that veterans (all ranks and both WWI and WWII) and nonveterans (males and females) are randomly placed throughout all sections and subsections of the cemetery. The expected findings indicate preferential treatment of males, females, veterans, infants and cremations. Figures 15 and 16 show nonveteran
males and females mixed in with the veterans. There is no indication of veterans (disregarding rank) being treated any differently than nonveterans as the expected findings indicate. These figures also show infants mixed in with the male and female cremations and suicides. As indicated by the expected finding we should see separation between infants and cremations, and males and females. The only distinguishing feature here is that infants were interred in plywood coffins and cremations were interred in copper boxes. Otherwise we still see the haphazard placement that is evident throughout the remainder of the cemetery.

Hypothesis two states that symbolism in the form of burial types (cremation and casket), material remains (grave associations, coffin types, headstones), and cause of death will be important factors in further establishing social information. This hypothesis is also only partially confirmed through the frequency distribution data of the actual findings. The expected findings stress such symbolic differentiations between veterans and nonveterans as: burial types, material remains in the form of grave goods, coffin type and headstone type. However, the actual findings lack strong indicators to prove this hypothesis.

According to researchers of mortuary practices such symbolic representations as: burial types, and material remains (grave goods, coffin type and headstones) are good indicators of one's social position or role during life. Within this case study two burial types have been defined: coffin burials
(subsurface and mausoleum), and cremations. These types are located within three subsections of the cemetery: the regular stacked coffin burial subsection, cremation and infant subsection, and the mausoleum. According to the frequency distributions for this burial characteristic, 89% of the total population (both veterans and nonveterans) were buried in coffins. While only 11% of the total population were cremated. According to the price list in Figure 7 of this study, 89% only 8% were in coffins in the mausoleum (the highest priced burial location). These coffins were of the low end of the price spectrum with no differentiating features between the veterans, nonveterans, males, or females. According to the expected findings, the veterans should have been in the higher priced coffins within the higher priced burial locations. The actual findings show that there were no veterans in the mausoleum, the highest priced burial plots, they were all in the least expensive burial location of the Christus section or cremated.

According to Saxe and Binford, material remains in the form of grave associations, headstone type, and coffin types are also indicators of social persona. If this is the case according to the expected findings, we should see evidence associated with the deceased indicating their role during life. However, the actual findings show only 3% of the total population (N=128) were interred with grave associations. Of this 2% were females and 1% were male. All of the individuals were in wooden coffins, blue-collar workers, within the regular stacked coffin burial subsection. All of the items proved to be
functional items utilized during life. These items consisted of wedding rings, one plastic rosary, inexpensive pearl earrings, and a pair of eyeglasses. This could be looked upon as a positive indicator or negative indicator. On the positive side this indicates that not many blue-collar workers spend their hard earned wages on such frivolous material items as diamonds and pearls. On the negative note lack of associated grave goods gives us no differentiating factors between veterans and nonveterans. If Saxe and Binford are correct we should see veterans buried in uniform or with some sort of military association. This is not evident here. In this respect veterans were not distinguished from nonveterans.

Headstone types were also analyzed. These were consistent throughout the cemetery. They were flush with the ground lacking any epitaph or monumentality. Common type headstones representing infant and cremation burial were small (1 ft x .5 ft) and contained only a metal plaque with the name, year of birth and death. The headstone type represented in the regular stacked coffin burials subsection measured 1.8 ft x 0.8 ft and contained the engraved name of the deceased and years of birth and death. The total veteran population was comprised of all males and associated with headstones. All of the veterans within the regular stacked coffin subsection had two headstones, one measuring 2 ft x 1 ft engraved with the state where they were born, their rank, the war in which they participated, and dates of birth and death. Both World War I and World War II headstones were exactly the same. The second
headstone was the common type for this section. According to Table 3, the population within the regular stacked coffin burials was comprised of 14% veterans and 86% nonveterans. The frequency of males to females within the nonveteran population was 70% males and 30% females. Of the male population 56% were associated with headstones and 44% were not. Within the female population 50% were associated with headstones and 50% were not.

Tables 3 and 5 illustrate the actual findings from the infant section. These tables indicate a 15:17 male to female ratio with one individual of unknown identification. Of the male population 60% were associated with headstones while 40% were not. These tables also indicate a 41% frequency of females associated with headstones and a 59% frequency of those without.

Tables 3 and 6 illustrate information obtained from the cremation section. These tables indicate a total population of 14 comprised of 75% males and 25% females, one male veteran and one individual of unknown identification. Of this population there is a 67% occurrence of males with headstones and 33% occurrence of those without. Within the female population there is only a 33% occurrence of those with headstones, leaving a 67% seemingly high frequency of females without headstones.

Those interred in the mausoleum lacked any type of headstone altogether. That is 8% of the total cemetery population lacked headstones. The reasons for this are two fold: 1) those buried without headstones probably
had no family members therefore, they were buried in need (county is responsible to bury), and 2) these deceased could have had relatives however the county could not locate them due to the County's financial restrictions. Because the county was responsible, they chose the most economical way to inter the remains. The only feature differentiating a veteran persona from a nonveteran persona is the fact that 100% of the veterans were interred with two headstones. While nonveterans might not be associated with a headstone at all.

Coffin types should also reflect the social persona of the cemetery population. In this cemetery wood and steel coffins where utilized. According to the mortician on site, Ron Rose, the wooden coffins are made of ash and held together with tacks (see Figure 14). The metal coffins were made of a 20-gauge steel (requiring 20 pieces of 20-gauge steel to make an inch). According to Rose (1994: personal communication) 16 gauge was the best (only requiring 16 pieces to make an inch). Both the wooden and steel were nonsealers, which means they lacked a rubber ring or gasket. In other words, the nonsealing coffins left the remains exposed to the subsurface environment (water, insects, etc.). All ornamentation (see Figures 11, 12, and 13) was cast aluminum (except infant ornamentation-this was plastic). Both the wood and steel coffins were at the low end of the manufacturers price spectrum. Of the veteran population 82% were interred in wooden coffins, 9% in steel and 9% cremations. According to Table 3, 89% of the deceased within the regular
stacked coffin subsection were interred in wooden coffins, while 11% were in steel coffins. The nonveteran population consisted of 43 males and 18 females. Of these 86% of the males and 94% of the females were interred in wood. Leaving only a 14% frequency of men and 6% frequency of females interred in metal.

Table 3 also indicates the mausoleum population totaled 10, consisting of a 7:1 male to female ratio. Of this population there was a 57% frequency of the males and a 67% frequency of the females interred in wood. While 43% of males and 33% of females were interred in metal.

All of the infant remains were in wooden (plywood) coffins. Sizes were consistent with one exception, a still born was interred in a very small plastic container placed into a cinder block. The total cremation population were interred in copper boxes. Again with no differentiating characteristics between a veteran and nonveteran.

There was a 94% occurrence of deaths due to natural causes (e.g., heart attacks, aneurysms, prematurity, placental insufficiency, pneumonia and tuberculosis), a 4% occurrence of suicides and a 2% occurrence of homicides. One of the suicides and one homicide were disinterred from the regular stacked coffin burials of the Christus section, with the remaining five suicides disinterred from the cremation section. The remaining homicide was disinterred from the Mausoleum. The actual findings show no differential corpse treatment between suicides, homicides and natural cause deaths. It should be in the
actual findings that a suicide should be separated from a natural cause death, and a homicide from either of these.

The data collected from this case study indicates only a few direct correlations between burial location, the symbolism of burial types, coffin type, presence or absence of a headstone and social persona. We see a patterning of veterans associated with two headstones, infants in plywood coffins, cremations in copper boxes and placed side-by-side, the mausoleum lacking veterans and any type of headstones.

As stated above evidence should point to veterans and nonveterans being symbolically differentiated through burial location, burial types (cremations, casket, mausoleum), and material remains (grave associations, coffin types, headstones). Upon disenterment of the veterans it was evident, that this was not the case.

It is expected that within each different burial type, we should notice symbolically a different container for the veterans and nonveterans. For example within the casket burial type we should see a more uniform casket type (wood or steel) for the veterans. All of the veterans being interred in steel while nonveterans are interred in either wood or steel. Or, within the cremation burial type it would be expected that a veteran would be interred in an urn engraved with his name and rank. Whereas a cremated nonveteran might be buried in an urn (lacking engraving) or other container type supplied by the crematorium. Another example would be within the mausoleum. If in fact a
veteran where buried here we would see veterans interred in the top rows, in metal caskets, while the nonveterans would be distributed throughout the lower levels in wood or steel caskets. The frequency distributions indicate that veterans were completely absent from the mausoleum. The frequency distributions also indicate that if a veteran were cremated they were not interred in an urn, but in a copper box common to the cremation section.

Material remains (grave associations, coffin types, headstones) were also not symbolically differentiating. We would expect to find veterans buried in a uniform representative of their branch of service. We should also find other items such as metals, guns or an American flag. Frequency distributions show no such special body treatments. Veterans were buried in street clothing as the nonveterans were. No other material remains with the exception of eye glasses, wedding bands or false teeth, were located to differentiate veterans from nonveterans.

The actual findings indicate a blue-collar status cemetery in a generally poor location within Las Vegas. Eighty-nine percent of the total cemetery population were interred within the low price range burial locations, 91% were interred in low price range interment type (wood coffins, copper boxes and not urns for cremations), 48% lacking headstones, and only 3% associated with any grave goods. The lack of grave associations also makes a statement of our changing mortuary habits and values from the early 1900’s to the present. It used to be that a person was buried in their best clothes and material items that
were extremely special to them. For example a woman might request that she be buried with her diamond wedding ring or brooch. Just recently (1980-1990) morticians are influencing family members of the deceased to inter their deceased without such expensive material items.

The general location of the case study within Las Vegas reflects the social status of the general population of the area from the 1960’s through the 1990’s. The actual findings suggest a blue-collar, low income population during the mid 1960’s through the early 1970’s. Three percent of 128 individuals were buried without headstones or any type of identification except age and sex. What does this tell us of our current society? Quite possibly that an individuals income status during life is reflected in death.

In conclusion, the Saxe-Binford hypothesis was helpful in establishing an analytical model. This model was only partially supportive in proving this studies hypotheses regarding the social persona of this veteran, nonveteran population. According to Saxe and Binford we should see correlations between the relative rank of the social position held by the interred individual and a symbolic representation of this social position after death. These symbolic representations should be in the form of differing coffin types, burial locations, headstone types, and material remains between veterans and nonveterans. For this study two separate hypotheses were formulated to test the Saxe-Binford hypothesis on a recent sample population. It was very evident that the best that could be determined is partial support of the two hypotheses.

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Regarding hypothesis one that different burial locations represent different social persona is supported by the following data: 1) all of the veterans were buried in the Christus Section, 2) all infants were separated, 3) all cremations were separated, and all interred in the mausoleum were nonveterans. However, if as stated by Saxe and Binford that social persona is associated to burial location then the actual findings should show females separated from males, veterans separated from nonveterans, suicides separated from those who died of natural causes, cremations separate from caskets, and infants in a separate area. The following findings then do not support the above hypothesis: 1) males were commingled with females, 2) veterans were mixed in with nonveterans and suicides, 3) placement was solely determined by time of death. Within the regular stacked casket subsection burials were stacked. Only one of these burials represented a married couple. The remainder were also stacked however, they were not related in any way. 4) infants and cremations were placed in a separate area within the Christus Section but, they were mixed.

Hypothesis two states that symbolism in the form of burial types and material remains should be important factors in establishing social information is supported by: 1) all veterans had two headstones, 2) all infants were in small plywood coffins, and 3) all cremations were in copper boxes, and 4) all infants were embalmed in a different way than adults. However, the following findings do not support the association of symbolism in burial types as representative
of social information: 1) veterans and nonveterans show no differentiation of coffin types, 2) veterans and nonveterans were not differentiated from one another regarding grave associations or corpse treatment, 3) those interred in the mausoleum were not treated any differently than those interred in stacked plots, 4) those interred in the mausoleum were not associated with headstones, 5) not all nonveterans were associated with any type of monument at all and, 6) there is no direct correlation between cause of death and interment.

Through the careful analysis of the actual data and the expected findings it can be determined that for this particular case study the Saxe-Binford hypothesis was a good analytical model. However, it was not an effective approach in determining the social persona of this recent case study. Eventhough, there were several known variables utilized in this project, in the form of death certificates and an original map of the cemetery, we were still not able to distinguish a separate social persona for the veterans and nonveterans. The most we were able to determine is a slight archaeological pattern of veterans being buried with two headstones, nonveteran infants in small plywood coffins placed side by side, cremations in copper boxes and infants were separated from adults.
APPENDIX I

GRAVE DATA SHEET
APPENDIX II

PLOT PLAN OF REINTERMENT SITE
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