

## AN ABSTRACT OF THE THESIS OF

Stephen Francis Kramer for the degree of Master of Arts in Interdisciplinary  
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Title: Toys in the Historical Archaeological Record of the Smith House (ORYA3).

Abstract approved:

*Redacted for Privacy*

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David R. Brauner

Excavations performed at the historic Smith House (ORYA3) located in Dayton, Yamhill County, Oregon, recovered a large collection of artifacts. Categories of artifacts previously analyzed include flat glass, nails, glass containers, ceramic hollowware and flatware, brick, bone, metal containers, illumination devices, currency, footwear, tobacco, and lead balls, shot, and cartridge casings. A category not analyzed was children's toys. This thesis addresses this category of artifact.

The thesis discusses the historical context of the Smith House, and examines children, play and toys. The theoretical construct of symbolic anthropology is used to provide a model for the process of enculturation. Detailed analysis of glass and clay marbles and of ceramic doll and doll-related artifacts is performed. Proveniences and associations of these artifacts are undertaken. Appendices provide for a chronology of doll manufacturing and for a detailed description of artifacts.

Conclusions drawn from the analysis of the toys at the Smith House suggest that a larger collection of toys and better provenience of collected materials are

necessary in order to apply the symbolic approach to toys as tools of enculturation. Recommendations for future avenues of research are given. It is suggested that this analysis provides a basis for future comparison with other historical archaeological sites.

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Toys in the Historical Archaeological Record of the Smith House (ORYA3)

by

Stephen Francis Kramer

A THESIS

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# Toys in the Historical Archaeological Record of the Smith House (ORYA3)

## Chapter 1. INTRODUCTION

### 1.1 Thesis Purpose

Historians have only recently begun to study children and their roles during Euro-American expansion into the American West. As active members of pioneer families, children have often been relegated to a status of “people without history”. As such, children have further been all but ignored by archaeologists. Yet, every adult who grew up in the frontier West of the nineteenth century was at one time a child of that same era. How these adults were enculturated during their childhood is worthy of historical and archaeological study. Yet, the historical record is incomplete. Very little information about the enculturation process of these children has been published. Historical archaeologists have done little work to address children in historic sites. This lack of archaeological exploration into the children of the past is the motivation for this thesis.

## 1.2 Archaeology and History of the Smith House

This study is directed toward examining artifacts recovered from the historic Smith House, located in Dayton, Yamhill County, Oregon. It is an attempt to people that house with the children who lived there. Other historic sites in Oregon have been excavated and have yielded artifacts that may be interpreted as toys, including Fort Vancouver, the Bandon townsite, and the Portland Federal Courthouse/Chinese townsite. The Smith House, however, has been identified as having yielded the largest collection of extant toys reported in the Pacific Northwest (Brauner, personal communication). Because of this, the Smith House was chosen for investigation.

The Smith House was continuously occupied from the 1850s to the 1990s. The location of Dayton is shown in Figure 1.1, and the location of the Smith House is shown in Figure 1.2.

The Smith House was excavated during 1992 and 1993 by archaeologists from Oregon State University. Recovered artifacts were cleaned, labeled, grouped into functional categories, and analyzed based on functional type after Sprague, 1980. Delight Stone reported on the Smith House in her thesis “The Archaeology of the Smith House (ORYA3), Dayton, Oregon” (Stone 1997). She recorded a number of artifact types and attempted to place those artifacts into some chronological order. Questions regarding room function, taphonomy, oral history, and artifact association were addressed. In Stone's conclusion, she recommended that further research be conducted on categories of artifacts not analyzed. Children's toys were among those artifact categories not previously studied and recommended for further research.

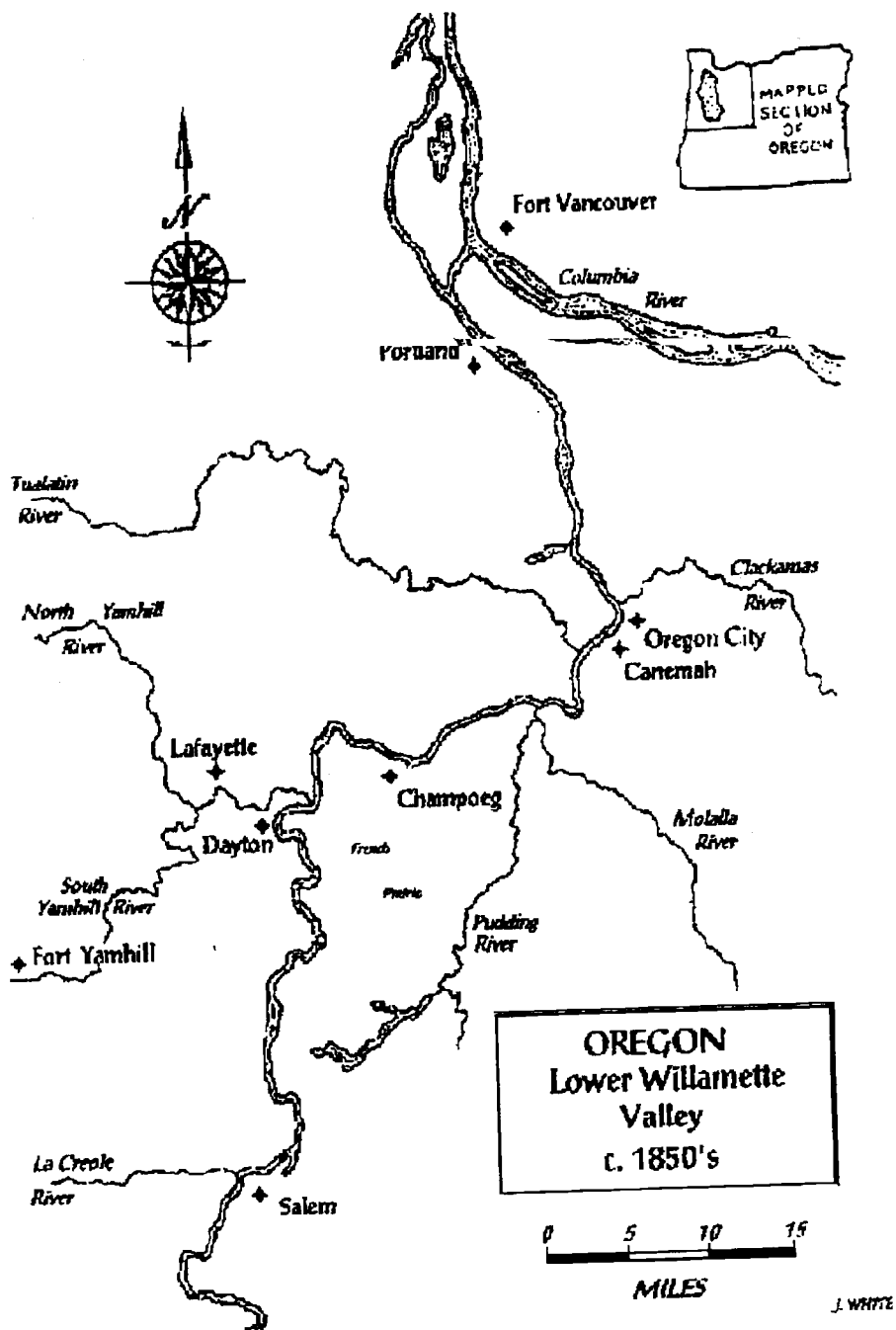


Figure 1.1 Location of Dayton, Yamhill County, Oregon (from Stone 1997:5. Courtesy of John White and Western Places)

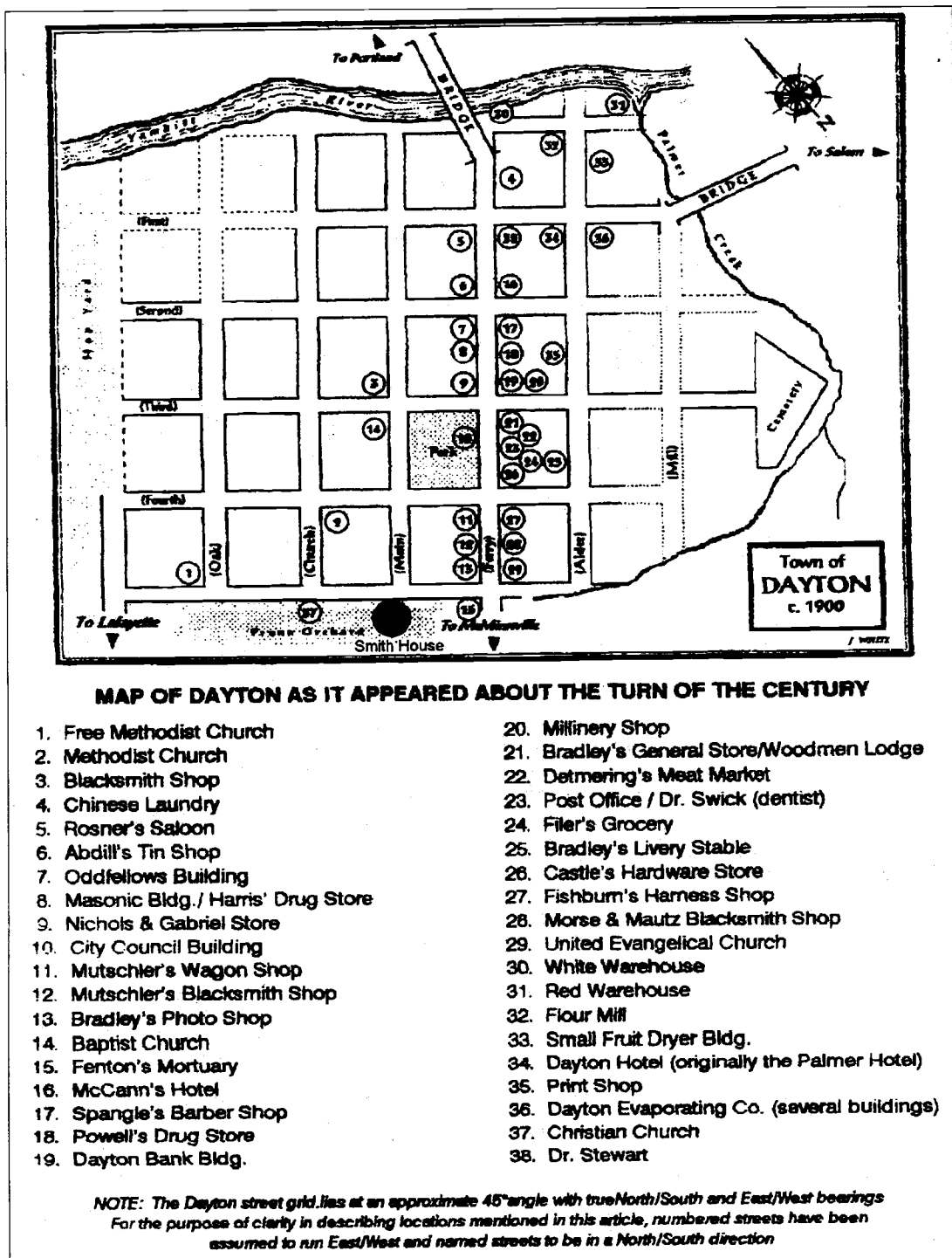


Figure 1.2 Location of Smith House, circa 1900 Dayton (from Stone 1997:6. Courtesy of John White and Western Places)

Documentary information collected on the occupants of the Smith House tells of their births, names, occupations, marriages, family sizes, and deaths. Further historic research may flesh out individual lives as seen through diaries, reminiscences, journals, newspaper articles, photographs, or oral histories. From these documentary sources, representations of individuals and groups may be constructed, thereby “peopling” the past. This approach has been attempted for the Smith House for establishing chronological occupations, functional room usage, and confirmation of oral histories (Stone 1997).

Andrew and Sarah Smith first lived in the house in 1859. By 1862, John and Jane Jones occupied the residence. The Joneses retained title to the house until it was sold to a relation, Robert Harris, in 1910. The title again changed hands in 1944 and the house passed through several different owners to the present. Ownership as of 1997 lies with Mike Brynes, doing business as Historic Properties. The Jones family occupied the house for a longer period of time than did the Smiths, but the common practice of historical naming of the house after the first occupant’s is followed here. Table 1.1 lists the complete Smith House title history.

The continuous occupancy of the residence from 1859 to 1990 provides a time capsule of human behavior for sixteen decades. Census records indicate that until 1907, numerous children occupied the site. Stone states in 1907 “there is only one child at a time living at ORYA3” (1997:51). The residence was a rental after 1944 and because of this and practical considerations regarding artifacts, this research will direct most of its attention prior to 1926. Table 1.2 is adapted from census records from 1860



to 1920, the years in which this study is placed, and lists the child occupants of the Smith house for those periods.

DATE	TITLE HISTORY
1992	Historic Properties dba, Mike Brynes
1968	Ora and Nelda Ashley
1964	Ruben and Lupe Castillo
1960	Gordon and Elsie Graham
1960	Edna Balcomb and James Howard
1947	T.R. and Helen Grover
1944	I.L. and Edith Howard
1910	R. Harris
1862	J. Jones
1859	Andrew Smith

Table 1.1. Title History (from Stone 1997:15)

Name(s) and Age(s)				Year			
	1860	1870	1880	1890	1900	1910	1920
	Andrew-10	Charles-9	Dolly-11	Louise-12	None	Charles' Children	None
	Mary-7	Ella-7	Frank-8	Harry-6		(boy and girl alternating presence)	
	Ida-4	Clara-4	Bertha-4				
	Lorenzo-2	Dolly-1	Louise-2				

Table 1.2 Child Occupants of Smith House 1860-1920

Physical features of the Smith House changed through time with an addition constructed during the period of 1862 to 1863 (Stone, 1997:20). The original house plan and addition remained in the same physical location throughout its subsequent history (Stone, 1997:29). Room function changed through time. Undisturbed proveniences for artifacts recovered from the Smith House can provide information about specific room function. Figure 1.3 is a plan view of the Smith House. This plan includes known room functions that Stone identified from oral interviews with LaVeda Garhardt (1997). LaVeda related these room functions from her recollections of the house functions as a child that spent summers in the Smith House. The date for this recollection is approximately 1926.

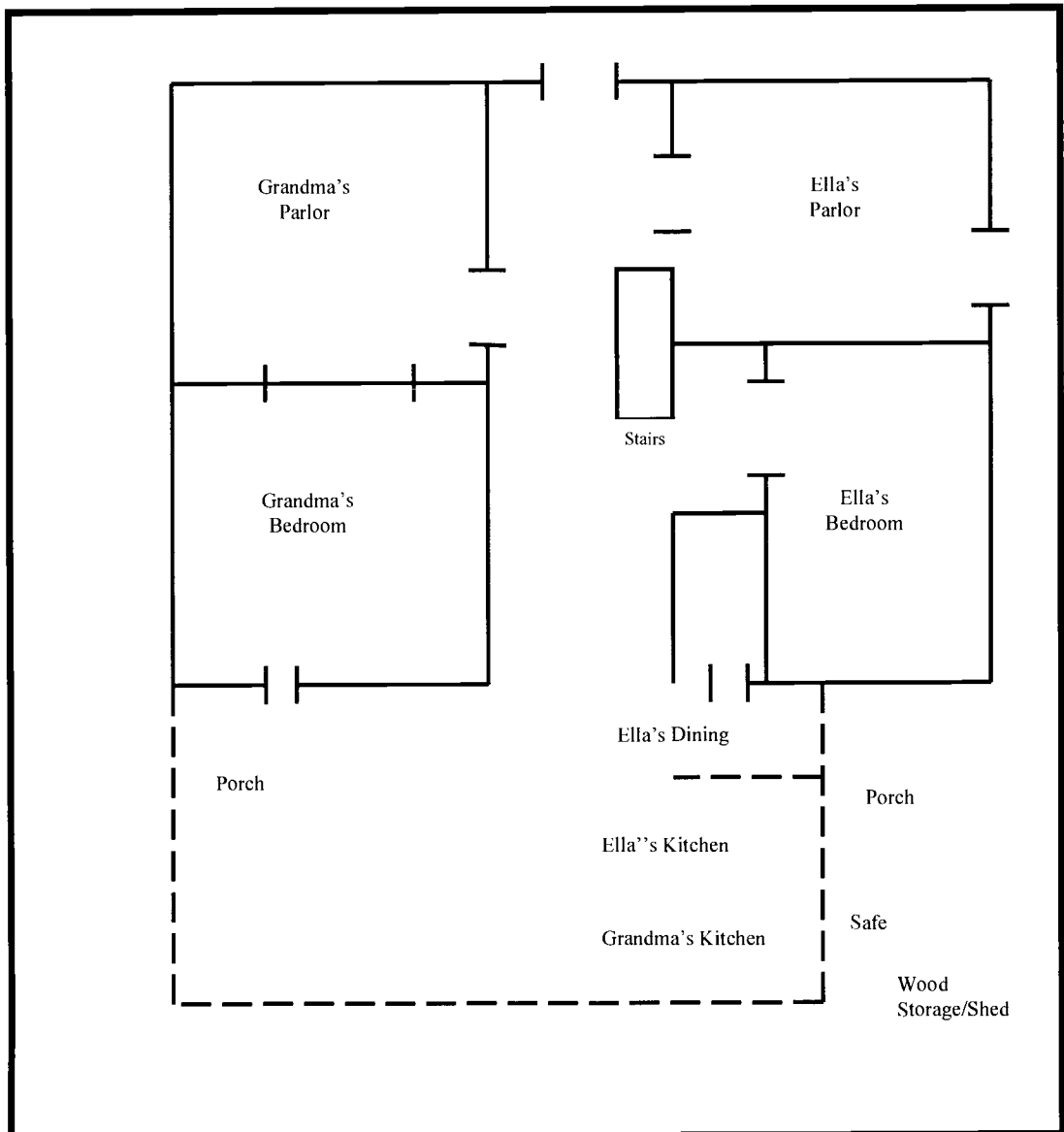


Figure 1.3 Smith House Plan View

Stone (1997:29) reports in her thesis that a problem encountered by archaeologists during the excavation of the Smith House was the disturbed stratigraphy of cultural deposits under the house floor. This disturbed, or churned, stratigraphic context compelled the principle investigator, Dr. David Brauner, to determine that artifacts recovered from the house would be considered as a single component.

Because of this lack of discrete stratigraphic context, this researcher must focus on alternative methods for interpreting artifact types. One alternative is to examine a specific artifact type, analyze that type, and attempt to draw conclusions based upon the analysis. The artifact type selected for this study is children's toys. Stone reported that specific artifact types recovered from the Smith House could not be linked to specific occupancies and that the archaeology "did not prove adequate to study socio-economic status or consumer choice" (Stone 1997:100). I attempt to examine these same questions about status, consumer choice, and commerce through toy analysis.

By examining artifacts classified as "toys" and placing them into their chronological context, it is hoped that individual occupants of the Smith House can be identified. It is further hoped that the analysis of specific types of toys will aid in describing the enculturation process and its application to children.

### 1.3 Theoretical Context

In the anthropological interpretation of the function of artifacts recovered from an historic site, the archaeologist uses a specific theoretical approach. This theoretical approach is critical when considering a site's material culture and its association with individuals or groups of a specific time period. Through the application of theory, the interpretation of an artifact type may serve to complement the historical documentary record. The archaeological analysis and anthropological interpretation of artifacts supplements the historic record and may confirm or refute what is known about the past.

I use a symbolic approach in interpreting toys recovered from the Smith House. It will be shown that adults give toys to children with a specific symbolic purpose in mind. That purpose may include the attempt to enculturate the child into adopting proper socio-cultural roles.

### 1.4 Research Questions

There are questions addressed by this study through the analysis of children's toys. Can the historical archaeologist identify artifacts as toys? Can these toys be associated with known individuals or generations of individuals through chronological dating techniques? Can an analysis of toys reflect enculturation processes?

Toys can be examined to reveal information regarding enculturation. In order to attempt to answer the above questions, the researcher must perform numerous tasks.

These include:

- Identify artifacts that are classified as toys.
- Select specific categories of toys that survive in the archaeological record.
- Analyze those toys for characteristics that identify dates of manufacture and/or deposition.
- Attempt to place those identified toys into associations where children were present.
- Determine if the analysis of toys can inform the researcher about enculturation processes.

As an archaeological site, the Smith House yielded a complex array of artifacts. From typological classification, the archaeologist may begin to construct a partial picture of the occupants of that particular site. Further, the historical archaeologist can then begin to order that site within a larger local or regional cultural environment. Finally, the archaeologist, as anthropologist, can then attempt to populate that site with individuals or groups who lived within changing socio-cultural periods and/or events.

## 1.5 Thesis Organization

This document is organized in the following manner. Chapter 2 addresses children, play, and toys in the context of the frontier West and the Smith House. Chapter 3 identifies the theoretical approach this thesis takes in order to construct a framework for analysis. Chapter 4 details the toy collection of the Smith House, and provides a basis for identification through various techniques. Chapter 5 discusses toy artifact associations and proveniences. Chapter 6 addresses conclusions drawn from the analysis and makes recommendations. Three appendices are added. Appendix A is a list of toys recovered from the Smith House. Appendix B is a chronology of the doll manufacturing processes. Appendix C provides a narrative description, and in the case of dolls and doll-related artifacts, dimensional line drawings, of the artifacts selected for analysis.

## Chapter 2. CHILDREN, PLAY, AND TOYS

Defining the “child” is difficult. Generally, the ages between infancy and adolescence are used to describe childhood. Bernard Mergen provides an insight for definition of the “child” in his work Children’s Play in American Autobiographies, 1820-1914 (1992). Mergen (1992:183) states: “The end of childhood is symbolized and commemorated in several ways in these autobiographies. Significantly, for most of the writers, childhood ended at 13 or 14 years of age, often with the death of a parent, the birth or death of a sibling, or the departure from home to work or attend school”.

In the 78 autobiographies sampled by Mergen (1992:183), he found that the end of childhood was precipitated by some symbolic event. It becomes apparent that the infancy-to-adolescence scenario is a generalization, and a researcher cannot accurately define the term. The definition becomes one of personal recollection, unique to each individual.

The nineteenth century in the Pacific Northwest consisted of a subsistence economy, with farming being the most prevalent form of subsistence. Even with most agricultural families putting their children to work as soon as they were able, the child still needed to have grown to a stature and strength that could contribute to the household in a meaningful way. Before reaching the teen years, most chores performed by children would have left some time for ‘play’.



To properly define the meaning of a toy, the archaeologist must first properly define the contexts in which toys are found. Admittedly mundane, the precision of a dictionary definition lends itself to lack of controversy. The American Heritage Dictionary defines the word 'toy' as "[A]n object for children to play with" (Berube 1985, 1982). A child at play, then, is the proper context as a starting point for defining toys. If toys are 'objects', they then may be classified within the realm of 'material culture'. For the purpose of this thesis, material culture is defined as those physical objects used by people that have become part of the archaeological record. Because excavated material culture is the physical remains of past societies, it falls within the domain of study for historical archaeologists. Within this context, it becomes necessary to understand children's play and to place the child's toy within that larger context of play.

## 2.1 Children and Play

Anthropologists, historians, and modern child development researchers define children's play in differing ways. These differing types of play can encompass extremely broad to very specific studies of play (for examples see West 1989; Whiting 1963; Mergen 1982, 1992; Salte 1978; Schwartzman 1980). A look at how these different disciplines define play creates the foundation for examination of that portion of play that employs toys.

American anthropologists have shown an interest in play for more than a century. Anthropologist Matilda Coxe Evans Stevenson was writing scholarly papers on children and their play as early as the 1880s (Mergen 1982: 59). Mergen places anthropology at the forefront of importance in the incipient stage of the study of children. Nineteenth century anthropologist's contributions to children and play, according to Mergen, were threefold. First, anthropologists of this period were interested primarily in preliterate societies, equipping them for a unique understanding of children, "who are the largest class of preliterate members of Western society" (Mergen 1982:60). Second, early ethnographers tended to describe play aspects of different societies. Finally, the anthropological "concept of culture provided a theoretical basis for explaining the relationships between play and other behavior" (ibid.) The relationship between play and enculturation as a behavior modifier is the primary direction of the theoretical portion of this thesis, and will be addressed more fully in Chapter 3.

The formation of The Association for the Anthropological Study of Play (TAASP) in the 1970s attests to the fact that the study of play in a cultural context has continued to the present. The published proceedings of TAASP provide categories selected to illustrate children and play based on linguistics, literature, post-modernism, or structuralism (Schwartzman 1980). These studies, however, do not discuss the material culture aspects of children's play in an archaeological sense. Discussions of material culture usually fall under the domain of the archaeologist. Yet archaeologists have not expended much time or energy into study of the material culture of the child.

In modern child development studies, children's play is examined under categories of gender-role acquisition, developmental disability studies, and general socialization theories. Much of the focus of child development includes scientific research into the socialization process. These enculturation studies cover a wide variety of observations of children during playtime. The study of socialization and play and its impact on adult preference for profession choice is an example of how childhood play and its influence on the grown child can be measured (Coats 1992). On a more specific level, children's choices of playthings have been studied in depth. The selection of toys, and more exactly, toys that are characterized as gender-based, is the subject of much socialization study (for example, see Carter and Levy 1988; Fisher-Thompson et al. 1995; Idle et al. 1993). The conclusions of these studies indicate that the adult selection of certain toy types is influential in the child's socialization.

These studies look specifically at children's preference for toys. Within these studies, it should be noted that adult supervisors select the toys, not the children. There is also within these studies a certain gender-biased preconception of adult toy selection for children. An example of this is illustrated in a 1995 study that states: "[W]hen adults visit toy stores and purchase trucks or footballs, in all likelihood, these toys are intended for boys and not girls" (Fisher-Thompson et al. 1995:239).

Because modern child-developmental studies have shown that toys are tools used by adults to enculturate children, these studies can be used to develop ideas about toys and their usage in the recent past. While toy selections by adults have likely

varied over time, modern gender preference studies may provide models for use in projecting adult behavior on parents of the past.

Historians are attempting to look at toy selection and its use in the enculturation process in studying the history of children in the American West. Bernard Mergen's (1995) "Play and Playthings" is an excellent study of the history of children's play in the United States. Mergen's book provides both a chronological background and a precise research guide to the study of children's play. More importantly for the purposes of this research, Mergen (1982) devotes a chapter to toys, which he describes as the "artifacts of play", and a good term for use by archaeologists.

Historical studies of Euro-American children of the Pacific Northwest begin with early nineteenth century migration. Once the fur trade became firmly incorporated early in the 1800s, more Euro-American families lived in the area. Metis children, born of fur traders and Native American wives, were fixtures around fur-trade posts as well.

Juliet Pollard's doctoral thesis provides an insightful look at Northwest Metis children during the first half the nineteenth century (Pollard 1990). Elliott West is the premiere child historian for the American West, and his book "Growing Up With the Country: Childhood on the Far Western Frontier", provides valuable insights into the second half of the century (West 1989). Both the West and Pollard studies look at children within socio-cultural and historical contexts and do well in instructing the reader about children of this era.

In his study of children on the American frontier, West categorized children's play as encompassing four categories: (1) play as exploration; (2) making work into play; (3) play through formal games; and (4) play encouraged by adults (West 1989). Bernard Mergen (1992:161) has also attempted a definition of the term “play”, where he states that it “is a more difficult term to define, but there is general agreement that play is behavior that involves a degree of self-awareness, is more or less voluntary, and mostly pleasurable”.

These categories can be valuable when applied to children of the American West. In the general sense, one can use Mergen’s definition. In the context of this study, West’s specific definition of play 'encouraged by adults' will be used. The use of toys during this type of play provides a material culture for the archaeologist to study.

## 2.2 Toys

The historical archaeologist thus begins with the physical remains of the child’s material culture. The next step is to identify those items that can be shown to be 'toys'. Following that, it is necessary to show if adults might have selected toys for children. Finally, it is necessary to attempt to identify toys selected by adults for the purpose of enculturating a child into proper social roles.

Archaeological excavations of both historic and prehistoric sites can recover children's toys. It is up to the archaeologist to recognize this fact and attempt to place these toys within some context for analysis. Two paths of inquiry may be attempted in

order to determine the relationships between these toys and the children who used them: (1) Identify the site and perform the documentary search to determine if children lived at the site. This method assumes that documentary evidence is accurate. (2) Identify artifacts as toys and assume that children were present at the site. This method precludes the documentary evidence that children occupied the site. It also assumes that no documentary evidence exists to inform the historical archaeologist that children were present at the site.

The preferred method for studying children and their toys at an historic archaeological site would be to combine the above methods. In this instance, the documentary record is examined to determine whether children were known to have occupied the site in question. This provides a background from which to examine the material record. If children occupied the site, then artifacts that appear to be toys can be associated with those children. Barring the presence of toys in the recovered material, the historical archaeologist must examine other artifacts. Children's clothes, personal hygiene articles, and learning tools (schoolbook, slate pencil) are examples of other material culture associated with children.

If documentation indicates that children did not live at the site, then artifacts recovered from the site that appear to be toys must be explained in some other way. Among the possibilities, the historical archaeologist may propose that: (1) Children *did* live at the site and the documentation is in error; (2) toys recovered from the site once belonged to adults and not children and were curated for some other reason; (3) the artifacts classified as toys are not toys, or (4) other deposition processes were involved in the placement of the toy at the site.

Children possess the ability to instill within any object the cognitive characteristics that, to the child, defines that object as a toy. To a child, a bit of string, a few rocks, and some sticks of wood become anything the imagination cares to conjure. It is difficult for the archaeologist to identify fantasized toys. This is a caveat that must be attended to when considering artifacts identified as toys. The archaeologist can only truly identify artifacts as toys that are clearly defined, within an *adult* construct, as toys. This attempts to include those objects that adults of the past called 'toys'. Another caution must be made regarding the researcher's own cultural biases when defining a 'toy'. What may appear to be a child's toy to the modern researcher may have, instead, held some other utilitarian use. Examples of this are more likely to be found in prehistoric studies. A poorly crafted projectile point is assumed the product of an apprentice flint-knapper's attempt at tool making. However, the point could have easily been created specifically for use as a toy or a learning tool.

Adult intentions can be revealed through historical research. In the American West, "frontier parents also knew the manipulative power of play" (West 1989:115). In this instance, "[P]arents gave boys wooden horses, guns, tiny wagons", and girls "received toys that suggested an indoor future of domestic tasks" (West 1989:116). On the frontier, parents used this influence to insure that their sons and daughters learned the cultural norms of that historic period.

Reviewing mail order catalogs, magazines, and historic photographs can confirm the availability of toys during the nineteenth century. Childhood reminiscences demonstrate the presence of toys in children's lives. In "Recollections of the Rickreall", Harriet Nesmith McArthur recalls that her toys consisted of both

"bits of broken china, glass or quaint bottles...[D]ecrepit cups and jugs minus handles" and "a tiny set of dishes from the Hudson's Bay Company store" (McArthur 1929:367). In this same reminiscence, McArthur says "[T]he fashioning of playhouses" was accomplished with "a few boards securely fastened to a tree or fence corner", indicating that not all play was within the household, and children's toys might often be found in unlikely places (ibid).

The Harris family that owned the Smith House from 1910 to 1944 also operated a drug store in Dayton, Oregon. A May 24, 1898 order for the Bob Harris drug store in Dayton, Oregon listed "Marbles", and a December 11, 1899 order for the same store lists "1 Kid Body Doll" (Oregon Historical Society vertical files). An historic photograph of the Harris store clearly shows a doll placed in a display case at the end of a counter (Oregon Historical Society Negative OrH. 89129). From the above, it can be seen that toys were procured and ostensibly presented to children for their play. This clearly places toys in the immediate local area where this study is focused.



## Chapter 3. THEORETICAL PERSPECTIVE

### 3.1 Children of the Past

Academic research into children as they are manifested in the archaeological record is incomplete. While different theoretical models have addressed an ever-increasing number of areas of archaeological inquiry, few have attempted to apply these theories to children (for exceptions, see Haskell 1971; Lillehammer 1989; Pipes 1994).

Children have been studied only in attempts to ‘observe’ them as determinants in formation processes (Hammond 1981). Elsewhere, children are dismissed as having been active participants in past cultural groups. Standard archaeology textbooks, while acknowledging gender roles as fit for study, do not distinguish children as members of past cultures (Fagan 1983; Rathje and Shiffer 1982; Thomas 1979). In The Hohokam by Emil Haury, the author disregards clay figurines as being associated with children, stating “they were not made as toys or to pacify the baby at the potter’s side.” (1976:255) Haury then states “[T]he meaning is clearly deeper than that, although, as of now, it is impossible to say what purpose they served” (ibid). This *impossibility* of determining purpose for these figurines illustrates the lack of resolve on the part of archaeologists to search for or include children in past cultures. This exclusion by both prehistoric and historic archaeologists must be addressed.

### 3.2 Children as People Without History

Anthropologists demonstrate interest in adults of different cultures, but few have attempted to address issues regarding children in these same cultures. Anthropological studies of children are generally restricted to child-rearing activities or broad descriptions of children and play (for example, see Schwartzman 1980; Whiting 1963). Ethnographers record socio-cultural relationships between and among people. They do not study the material culture created by those people or their contributions to material deposition processes.

Few archaeologists have attempted the study of children. Grete Lillehammer, in A Child is Born: The Child's World in an Archaeological Perspective states that "[T]he main obstacle to finding the child's world is neither the child nor the archaeological record, but the discipline's own understanding and knowledge of the adult world and [the child's] environment in past societies." (Lillehammer 1989:103)

Historical archaeology as a discipline employs the historian's methods. Recently historians of the American West have attempted to 'find' children and explain their roles within society (see Formanek-Brunell 1993; West 1989; West and Petrik 1992). For the historical archaeologist, both written and wrought may be studied in order to more fully flesh out the past. Written records may serve to inform the archaeologist about the who, what, when, and how of any particular archaeological site. The documentary record may also serve to inform as to the why. Care must be taken in not accepting only the fact of the written record, as this may bias the interpretation of the material record. It is the historical

archaeologist's domain of inquiry to analyze the material record. This analysis allows the archaeologist to either support or refute the written record.

### 3.3 The Child's World in Archaeology

For the purpose of this thesis, the child's world may be characterized using Lillehammer's relationship definition. Following Sigsgaard, Lillehammer states that the child's world may be "defined as follows:

- The culture which arises from the children themselves and their engagement in the surrounding world,
- The culture which is transferred to children from adults, or
- The culture which is transferred from child to child without an adult mediator" (Lillehammer 1989:90).

Any combination of the above can be considered when studying children and their relationships to environment, adults, and each other. This thesis focuses on the second relationship; the transference of culture from adult to child. For clarity of terminology, this thesis uses the term 'enculturation' to describe the above cultural transference from adult to child.

Connecting recovered material culture to the enculturation process can be accomplished by using the anthropological theoretical approach of symbolism.

Materials given to a child to aid in that child's enculturation can be interpreted in a number of ways. These materials can be studied for their monetary value and interpreted in terms of consumer choice. They can be studied for their physical attributes and interpreted in terms of their function. They can be

studied for their meaning and interpreted for their symbolic value. Symbolic interpretation, where materials are studied to determine their meaning is the focus of this chapter.

The process of enculturating a child entails many operations carried out by the parents and other members of kin and extended family groups. For the archaeologist, many of these operations such as discipline and nurturing may be ephemeral and not remain as part of the archaeological record. An aspect that does remain in the record is the toy. Toys are found in many archaeological sites and may provide insights into the enculturation process.

### 3.4 Enculturation and Cultural Change

Adult enculturation of children is performed at many levels, instilling the culture's ideas of proper gender, class, and status roles. These levels include teaching by example, teaching by verbal instruction, and teaching using physical tools. The toy was a teaching tool. Physical tools (toys) are used to instill proper cultural acquisition in the child as it grows to adulthood. If that adult becomes a teacher of the next generation, dominant socio-cultural norms are re-transmitted to that next generation. This process is symbolic in nature. It requires that the recipient of the enculturation tool (toy) understand the meaning of what is being transmitted. This can be reinforced by other influences, as previously shown from Lillehammer (1989).

The use of toys as symbols for enculturation may present the archaeologist with a method of discovering what socio-cultural messages were being

transmitted to the child. For instance, toys that represented Asian (coolie), African American (mammy or pick-a-ninny), or other racial caricatures might have been used to further racial stereotypes. Toys such as ceramic dolls, tin soldiers, or miniature playhouses may have been used to teach proper gender role acquisition.

### 3.5 A Model of Enculturation

The following models (figures 3.1 and 3.2) are used to illustrate the enculturation process. These models are the author's own and are not drawn from any current anthropological literature. The concepts for the models are taken from general anthropological symbolic theory and the author's research in modern child development and child psychology studies.

Figure 3.1 demonstrates how the enculturation process serves to transmit the social norms of the times. In this model, the symbolic nature of the toy as a tool of enculturation is labeled as Box 1. In Box 2, the toy is given to the child in order for the child to acquire proper socio-cultural roles. In Box 3, the child grows into an adult that has acquired those roles. In Box 4, the adult reinforces the norms of the culture by transmitting the symbolism to the next generation of children. In this model, toys as tools for enculturation operate in a positive feedback mode. This model demonstrates how the symbolic nature of the toy remains the same across generations, and reflects little cultural change within this context.

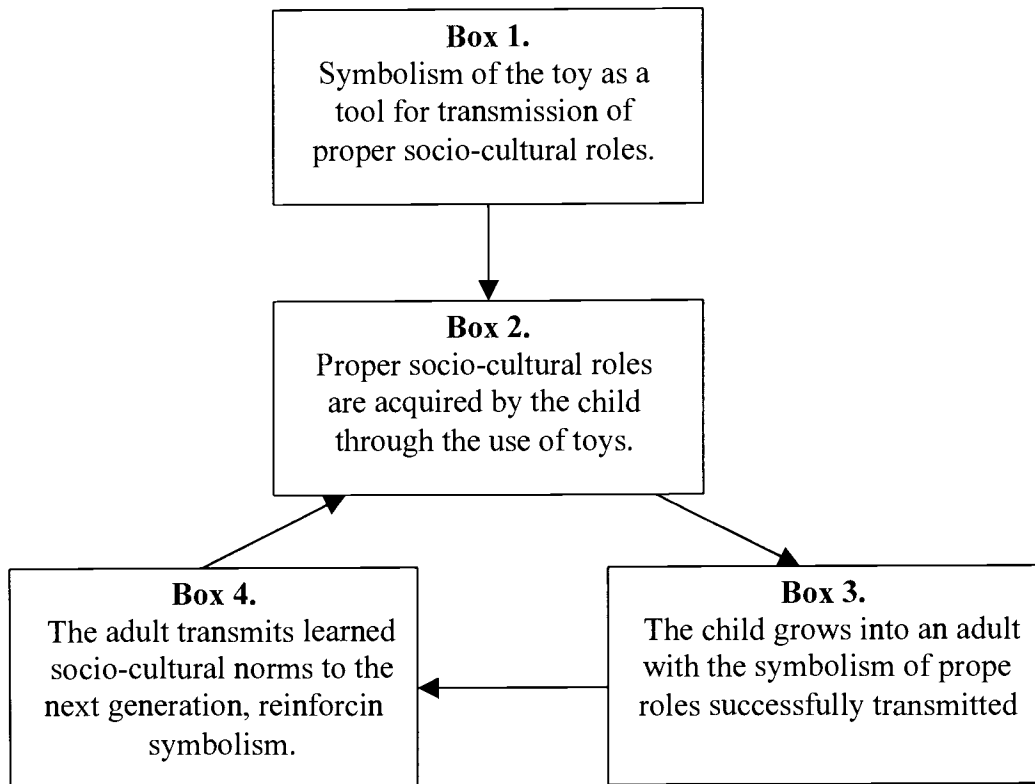


Figure 3.1 Model of Enculturation Through Symbolism Transmission

Figure 3.2 is based on the above model, but illustrates how cultural change may be observed. In this instance, it is in Box 4 that we observe cultural change. The dashed arrows indicate what happens when the adult chooses not to reinforce the dominant symbolism. The adult, although having acquired the ‘proper’ socio-cultural norms, transmits differing information. This new information changes Box 1, where the dominant symbolism is changed and in Box 2, where the child is instilled with new ideas of ‘proper’ socio-cultural behavior.

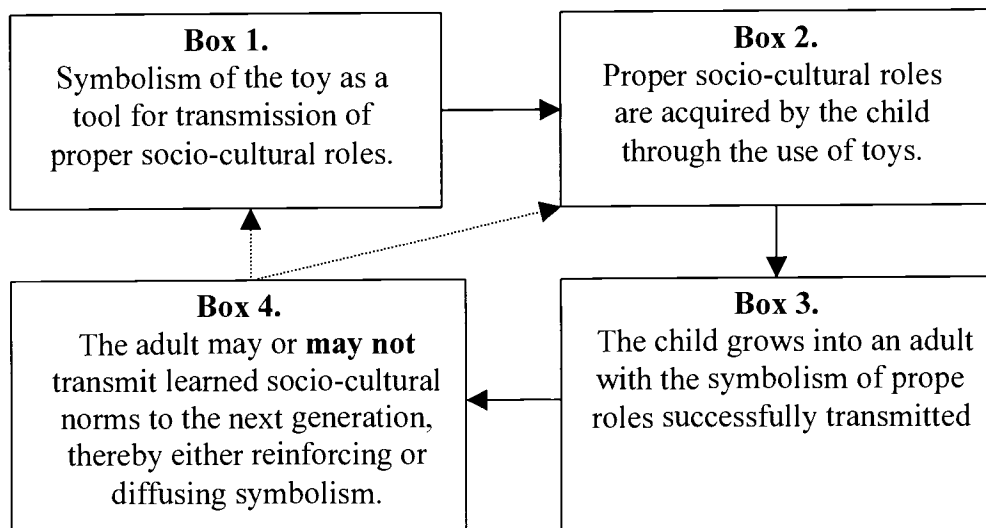


Figure 3.2 Model Illustrating Cultural Change

Cultural change can also derive directly from the child. Such may have been the case during the late nineteenth century when, as Formanek-Brunell (1993:6) has recorded, “while some girls played house in the ways their parents hoped they would, many others...challenged adult prescriptions of play”. The instance where a child would break the enculturation model may be observed in the archaeological record. In this case, for instance, an historic structure that was known to have housed only female child occupants for a prolonged period may not yield any toys that would normally be thought of as ‘girl’ toys.

Archaeologists in this case may be able to infer cultural change based on the analysis of recovered artifacts that do not fit the suspected characteristics of the material culture. Selected toy ‘types’ can be analyzed in an attempt to describe cultural change.

Neither model presented above is meant to exclude other learned behaviors. It is understood that behavior is learned through any number of sources, and those sources will also influence socio-cultural behavior. It is the intent of this chapter to show how toys may contribute to learned socio-cultural behavior.

This chapter illustrates how socio-cultural roles regarding gender, class, or race can either be reinforced or changed over time. The observance of cultural change is a main goal of both anthropologists and historians, and the study of toys can yield important information. To further this anthropological endeavor, this thesis will study selected toys from an historical archaeological site, the Smith House.



## Chapter 4: TOY MANUFACTURE AND DATING TECHNIQUES

### 4.1 Introduction

This chapter addresses the specific artifacts recovered from the Smith House that have been selected for detailed analysis. The functional classification of artifacts identified as toys is taken from the original categorization performed by Stone (1997). Appendix A lists all artifacts identified as toys recovered from the Smith house.

Two criteria were used to select toy artifacts for detailed analysis: material type and chronology. Ceramic and glass are material types that survive well in the archaeological record. Other toy material types recovered from the Smith House include rubber, plastic, lead, and unidentified metal. Rubber and metal are material types that survive poorly in the archaeological record. By the mid-twentieth century, the introduction of petroleum-based plastics exploded onto toy markets. Plastic technology was not perfected before World War II, much less used in toy production, and attempts to analyze this recent a technology is beyond the scope of this thesis.

The second criterion for analysis was chronology. Toy artifacts were selected for analysis if they could be dated to the nineteenth or early twentieth century. The last date selected for potential analysis was chosen as 1926. This date was selected based upon the oral history given by Mrs. LaVeda Garhart. Mrs. Garhart asserted that, after the death of Bob Harris in 1926, "there was a great cleaning of the house and clearing out of many personal possessions" (Stone 1997:23). This cleaning potentially

removed all broken or discarded artifacts to the house trash pit. A ceramic mean date of 1899 taken from artifacts found in the trash pit tend to confirm this terminal date (Stone 1997:61).

In addition to the above cleaning date, the history of the occupants of the Smith house includes children up to this period. As was noted in Chapter 1, by 1907 there was only one child at a time occupying the house. Mrs. Garhart was perhaps 12 years old in 1926.

Among the 121 artifacts originally classified as toys by Stone (1997), 80 were positively identified as children's toys. Among those artifacts discarded from the original count include sea-shells, agate stones, and ceramic identified as possibly doll-related. These discarded artifacts represented 34 percent of the initial identification count. Of the remaining 80 artifacts, 64 percent (51) of those were identified for analysis. The remaining 36 percent (29) was composed of plastic, unidentified metal, rubber, and one unidentified lead artifact. Figure 4.1 illustrates this distribution of all artifacts by material type.

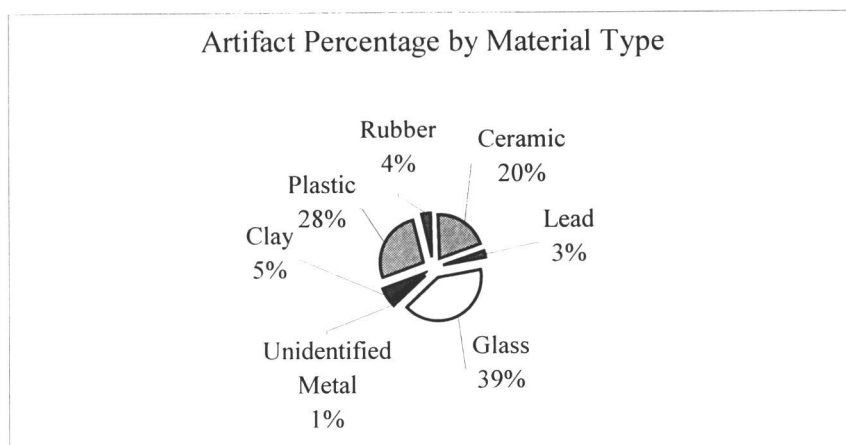


Figure 4.1 ORYA3 Toys by Material Type

## 4.2 Dolls, Doll Manufacturing, and Terminology

This section describes some of the history of dolls and doll manufacturing to provide a framework for understanding their analysis. Coleman et al., in The Collector's Encyclopedia of Dolls, covers this subject in greater depth (1968, 1986). Because surviving doll parts will consist almost exclusively of ceramic materials, only information relating to these specific doll artifacts will be discussed. A brief chronology of ceramic doll manufacturing in Europe and America can be found in Appendix B. This appendix will be referenced throughout the body of this doll description section.

Dolls were made of many different materials, including wood and vegetal matter, cloth, metal, gutta percha or rubber, wax, papier-mâché, and ceramic. While some non-ceramic dolls may survive in the archaeological record, it can be expected

that most doll artifacts recovered from a site will be ceramic. Identifiable doll artifacts recovered from the Smith House are made of ceramic material.

Both European and American makers manufactured dolls for sale in America. Generally, doll styles followed that of the European tradition throughout the nineteenth century. By the twentieth century, American manufacturers were moving away from European dictates of style. In particular, once World War I had commenced, German products were no longer available. In the period from 1914 to 1918, the American doll industry flourished. During this same period, the Staffordshire potteries of England began to manufacture dolls in large quantities. Also during this period "Japan appears to have begun making bisque heads with Occidental features" (Coleman et al., 1986:264).

Dolls composed of individual ceramic parts were generally constructed in similar fashion. The completed doll head or doll head and shoulder piece, along with the appropriate limbs, were attached to muslin or other cloth bodies, and the doll was dressed with the selected clothes. Dolls were either assembled into this complete form at the factory, or sold as individual pieces to other manufacturers, wholesalers, and retailers. In both cases, the ceramic parts of the doll were composed of two main ingredients: the 'china head' or head and shoulder plate, and the doll limbs. This excludes those dolls that were molded as solid, one-piece units. Both doll heads and doll limbs were advertised for sale by catalog companies as individual items. The parts of ceramic dolls that may be found in an historic archeological site, then, will be composed of any or all of the following doll parts: complete one-piece dolls, doll heads, or doll head with shoulder pieces, or doll limbs.

These doll parts are most likely to be found in incomplete form. Ceramic dolls were often curated past the pre-adolescent age of the owner, as the nostalgic or monetary value of ceramic dolls was considered high. Ceramic dolls, however, were extremely susceptible to breakage, and the archaeologist can expect to find doll remnants in broken form.

The chronology of doll manufacturing is rather muddled in collector's guides. Coleman et al. (1986) describes two early twentieth century articles that attempted to report on the chronology of doll manufacturing. Excerpts of these articles reveal that, while these authors agree upon some common facts, other information pertaining to doll manufacture are disputed. China, or porcelain, doll heads are thought to have been "made in Germany from about 1840 on" (Coleman et al., 1986:242). Conversely, King states "[I]t is thought that china dolls were first made around 1800, but surviving examples of early types date largely to the 1830s: after 1845 they were made in vast numbers and were within the price range of practically every child" (King 1979:110).

Based on the above, I will not place a manufacturing date for any ceramic doll part before 1840. This does not preclude the fact that some ceramic doll artifacts may have been made before this date. However, until other corroborative documentation confirms ceramic doll manufacture as dating to circa 1800, it is more reliable to interpret artifacts based upon the later date of 1840.

Agreement by experts on descriptive terms for ceramic, or 'china' dolls, is unclear. The Coleman et al. china head is described as "glazed porcelain" (Coleman et al. 1986:242). Other descriptions for china head dolls called them 'bisque'. For doll descriptions, the following terminology is used:

"Bisque, China, and Parian are all made of clay, feldspar, and flint. Differences between them are subtle. Parian is unglazed, untinted porcelain; china is a glazed porcelain; and bisque is unglazed porcelain with a flesh color" (Herlocher, 1996:ix). Archaeological texts describe ceramic type definitions for historical artifacts, but collector's terminology is used here. No clear definition of doll ceramic types has yet been defined for the historical archaeologist.

The date of manufacture for a ceramic doll is difficult to determine. Coleman et al. (1968, 1986) is the best reference for identifying characteristics of dolls that may lead the researcher toward fixing a date of manufacture. Other doll collector guides provide limited clues to dating.

The first and foremost indicator used in the dating of manufactured dolls is the manufacturer's trademark. Nora Earnshaw states that "[T]he main clues to dating and identification are: *marks* on dolls' heads; *stamps and labels* on dolls' bodies and labels on doll boxes; the *shapes* of bodies; the *methods of attaching* heads to bodies; the *construction* of bodies and limbs; *patents* and patent dates;..." (Earnshaw 1987:9). While these directives to collectors are minimally instructive, Earnshaw, as other collectors, do not elaborate on these 'clues'. Elaboration as to *when* the method of attachment of heads to bodies changes, or *when* body shapes change, is not provided.

Coleman et al. (1986:243) state that fully "95% of china (was) not marked". Among the collection of those artifacts identified from the Smith House as ceramic doll parts, only one artifact bears a stamp. The remainder of 'china' doll artifacts bear neither stamp nor mark nor label.

Barring the presence of manufacturer's marks, the researcher must rely upon other methods for determining dates. One method that may be used is to determine when technologies changed, thereby providing clues based upon those changes. Unfortunately, once again, collector's guides do not provide information on manufacturing methods, instead dedicating most time on information deemed useful to the collector and not the archaeologist. Changes in the types of mold construction, for example, may be dated to a particular time, but are not given in collector's guides.

One manufacturing method that can serve to identify dates on ceramic doll parts is the mold type. Coleman et al. (1986) identify a three-piece mold with mold lines found on both shoulders and down the center of the back of the shoulder plate. This mold type dates from 1858. A two-piece mold manufacturing process for American-made ceramic dolls is dated from 1902. Neither three-piece nor two-piece mold manufacturing processes, as described, provide information significant enough that the archaeologist may draw absolute dating conclusions from inspection of ceramic doll parts. However, if a three-piece mold of the type described in Coleman et al. (1986) is encountered, the archaeologist may safely date this doll type to no earlier than 1858.

Another, more significant, method of manufacture that can be employed by archaeologists when examining ceramic doll parts, is found in examining the pre-firing process. Coleman et al. (1986) describe a change in the pre-firing process of ceramic dolls that involved how the material was introduced into the mold. There were two basic processes involved in this manufacturing change. These were the pressed mold process and the poured mold process.

Before 1890, most ceramic doll parts were manufactured using the hand-made pressed mold process. This consisted of a "method whereby the material is rolled out like dough and pressed into the mold, often with a sponge" and "was used for most early porcelain heads" (Coleman et al. 1986:242). This method created a rough and uneven interior surface and the thickness of the finished product was uneven.

The poured mold process began with the discovery that water added to the ceramic paste created a slip that could be poured into a mold. Once the ceramic material began to harden, the mold was turned upside down, and the excess material was poured back out of the mold. The observable results of this type of process included a smooth and even interior surface. Other observable results of the poured mold manufacturing process included an even thickness to the product when observed on end. Finally, some remnants of bubbles formed in the slip and left in the finished product may be visible.

The pressed mold process is identified as the earlier of the two processes. While no resource mentions when the pressed mold process came into usage, the earliest reference to the poured mold process dates to 1870 in Germany. This date is consistent with dates for the category of "Bisque Doll (Slip Cast)" defined and dated between 1870 and 1930 by Azizi et al. (1996:193). By 1892, France had begun to use the poured mold process. It is suggested by different sources that with the introduction of the McKinley Tariff Act of 1890, European doll manufacturers, for the purpose of cost conservation, adopted the poured process. This tariff imposed taxes based upon weight, and the poured mold doll-part weighed less than the pressed. In any case, most sources state that by the 1890s, poured molds were the norm in ceramic



doll manufacture. Any artifact identified as a ceramic doll part by the archaeologist may be dated as to manufacturing date based on whether the part exhibits characteristics of pressed or poured mold manufacturing processes. Pour mold doll parts are dated as process fully adopted by 1890. For the purpose of this research, dolls identified by the pour mold process are dated post-1890.

#### 4.2.1 Style

Style is another useful method for dating doll parts. Dolls were constructed to reflect the styles of the period, and style changes over time. The best examples of this may be found in changing clothing or hairstyles. Further, style changes may reflect the changing morality of a period of time. This may be indicated in a doll's construction or clothing that would reflect, for instance, a change from Romantic to Victorian morality, wherein a bare ankle was not looked upon during the Victorian age as morally deficient. In an 1884 article, dolls were "dressed according to the quaint styles of those artists who have distinguished themselves by illustrating children and their ways" (Coleman et al. 1986:763). Another article states that in France, at the end of the nineteenth century, a doll's head "original model will be some lovely portrait by a special artist of the house, who has copied types of beauty in the museums and galleries of the world" (Coleman et al. 1986:767).

Style is a key element in identifying dates of doll artifacts and can be applied through a number of differing methods. Those parts of a doll that would reflect style but were not constructed of durable materials, such as clothing and hair, often do not

survive long in the ground. The ceramic pieces that do survive can be studied for elements of style. These elements include molded hair styles, underglaze or overglaze paint that represents clothing, molded shoe or boot style, and shoulder plate style.

Coleman et al. state that "[M]olded hair styles and molded shoe styles often provide clues to the age of a doll. It is fairly certain that a doll with a datable hair style or shoe style was not made prior to the period when the particular style was in fashion"(1968:7). This is a logical statement. This same logic should hold true for those ceramic doll artifacts that have been painted to represent clothing. It remains for the archaeologist to find information of fashions of the nineteenth century to help identify doll parts that exhibit distinct hair or shoe styles.

Another tool that can be applied in the dating of ceramic dolls is also related to style changes. Prior to 1873 in France, dolls were shaped and dressed as young girls or ladies. This same year, M. Jumeau perfected the true bébé doll. Coleman et al. (1986:771) state that by 1880, lady dolls were moving out of fashion, and child-like dolls were growing in popularity. A survey of mail order catalogs from this period indicates that, indeed, the grown-up doll was declining in popularity. By the twentieth century, it is rare to find catalog advertisements for dolls with other than baby features. This change in consumer preference can serve to assist the archaeologist in dating ceramic dolls. There is no evidence that, prior to the 1880s, child-like dolls were *not* sold. Adult dolls, however, may be dated to before 1900 in most cases. Because of this, adult style doll artifacts were likely manufactured during the nineteenth century.

#### 4.2.2 Doll-Related Artifacts

Doll-related artifacts, for the purpose of this thesis, are those artifacts that can be identified as doll houses and those articles found in a doll house, and clothing or ornamental accessories used in outfitting a doll.

Doll houses were manufactured to represent a miniature 'grown up' house in every aspect. Because of this, it can be expected that any artifact that could be associated with a dwelling of the time period investigated could be found in miniaturized version. Doll houses were constructed and furnished with replicas of every possible thing imaginable. In fact, the functional classifications used by historical archaeologists for 'adult' typologies can, and should, be applied directly to the furnishings of a doll house. Study of the function, material, and morphology of articles identified as doll-house artifacts can be used in the same manner as is applied in understanding the "cultural reality" of adult inhabitants of historical archaeological sites (Sprague 1980:1). Method of manufacture and style can be used to discover date ranges of a miniature. Articles manufactured in miniature for use in doll houses were made of materials that can survive in the archaeological record. Among these are ceramic, metal, and glass accessories.

Doll accessories most commonly consisted of wigs and clothing. Many of these accessories were manufactured with materials that do not survive in an historical archaeological site. Some doll accessories that might survive over time would include glass eyes, metal or ceramic buttons, or personal accouterments such as hair pins,

necklaces, or bracelets. Identification of these articles may provide information regarding cost, style, or method of manufacture of the accompanying doll.

#### 4.3 Marbles, Marble Manufacturing, and Terminology

Marbles are found at many historic archaeological sites. Because of the materials used in manufacturing marbles, they tend to endure in the archaeological record. These materials include fired clay, ceramic, glass, stone (usually agate), and metal (usually steel). Marbles were, and are, used in children's play. Nineteenth century mail order catalogs sold marbles, and they can be found in the toy section of these catalogs.

The Smith House yielded 36 identifiable marbles. This represents 45 percent of all identified toy artifacts excavated from the site. This also represents 0.3 percent of the total artifact collection of the Smith House.

Marbles were not only used for children's play. Opaque black and white marbles were sold for the purposes of ballot box voting. Marbles were used as stoppers for carbonated beverage bottles, and added color to the bottom of fish aquariums. Marbles were used in popular games, such as markers in Chinese Checkers. Marbles were also used for gambling purposes by frontier soldiers, taking the place of banned gambling materials such as dice or playing cards (Brauner, personal communication, 1995).

Because of these differing functions for marbles, the historical context of the artifact as it relates to a site must be considered. For example, marbles found at an

historical military site, particularly where wives and children were not quartered, might more likely be considered to have been the aforementioned gambling tools rather than children's toys.

In addition, there is no reason to believe that aboriginal North American cultures did not make rounded clay objects. Here, of course, the function of the object could not be shown to have been for play purposes without other associative evidence.

In America, marbles have been excavated in contexts with late seventeenth century colonial sites. Other historical references through the ensuing centuries have mentioned marbles. Collector's guides abound, as collectable marble values have greatly increased over the past few decades. Historical archaeologists have begun to examine marbles and their importance as historical artifacts. This section will look at glass and clay marbles, as those are the two types identified in the Smith House collection. As with dolls, marbles may be identified by their manufacturing method or by their style.

#### 4.4 Glass Marbles

Of the 36 marbles found in the Smith House collection, 32 (89 percent) are glass marbles. Glass marbles are diagnostic based upon a number of criteria, including method of manufacture, interior or surface colors, patterns, and styles.

The amount of wear on the surface of a marble may be indicative of the amount of use the marble saw. Caution must be exercised in identifying use wear on

marbles. Relative terms of low, moderate, or heavy use are arbitrary and subjective terms. The relative hardness of the material may also vary from marble to marble. This may be dependent upon the manufacturing process. For some marbles, if the glass was too cool while being formed, the marble might be more susceptible to breakage.

In this study, marbles are given one of four description types based on collectors' literature (Baumann 1991; Block 1996; Castle and Petersen 1992). These four types and their characteristics are:

1. Opaque. A marble that light cannot pass through.
2. Transparent. A marble that passes light completely through its interior.
3. Semi-Transparent. A marble that passes some, but not all, light through its interior.
4. Translucent. A marble that passes light, but nothing can be viewed through the marble's interior. These marble types have an opalescent nature.

None of the above characteristics are indicative of chronology, but given for descriptive purposes only.

#### 4.4.1 Hand-Made Marbles

Commercially produced hand-made marbles date to as early as 1846 in Germany. Until the late nineteenth century, the vast majority of hand-made marbles were produced in Germany. All glass marbles were hand-made until the 1890s. According to collectors' literature (Baumann 1991; Block 1996), by the early twentieth century machine manufacturing processes came into use.

One hand-made marble manufacturing process, called the 'single gather', consisted of producing one marble at a time on the end of a rounded iron cup called a punty. This type of marble is not easily identifiable, but may be distinguished by its out-of-round shape. Other than this characteristic, nothing can be found in the literature that might allow the researcher to positively identify the 'single gather' marble.

Another manufacturing process consisted of the use of marble scissors, a hand held instrument with tong handles. This instrument had a rounded cup on one tong end and a cutting blade on the other. Glass canes consisting of small rods of colored glass surrounded by small rods of clear glass were formed in the beginning of the process. The end of a cane was then inserted into the cup end of the tongs, and twisted to form a sphere. The glass was then cut with the cutting blade. This process left two cut-off marks on the marble surface. One mark would be inside the cup from the previous cut, and one mark from the most recent cut (Block 1996).

An instance where these two marks would not be present is identified as 'first off cane' and 'last off cane' marbles. In this instance, only one cut-off mark would remain on the marble. The first marble from a cane would exhibit only one cut-off mark, and the last marble from a cane would exhibit only one cut-off mark. Because of this, researchers must be careful in making a determination of the manufacturing process of a marble with a single cut-off mark. A single cut-off mark cannot be used to accurately identify a hand-made marble. Inspection of the interior of the marble can be used to identify the hand-made marble. The colored glass rods would *not* stretch from pole to pole within the marble. If a marble is identified as having a single cut-

off mark *and* the interior glass rods do not travel from pole to pole, it may be classified as hand-made (Block 1996).

The two cut-off marks are normally be expected to be found on opposite ends of the marble, although there is no reason to believe that the marks were always diametrically opposed to one another. If, for instance, the cane end with a cut-off mark was inserted into the cup and then twisted, it is possible that the glass in the cup end would turn somewhat. The result of this would still leave two cut-off marks, but they may not be found on exact opposite ends of the marble.

Another consideration that should be taken into account when attempting to identify hand-made marbles concerns the interior design and colors of the marble. Logic would indicate that if the colored rods in the center of the cane were inserted into the cup, then the axis of the cut-off marks would be the same as the axis of the colors running through the interior of the marble. Therefore, it would be expected that the cut-off marks would be found at or near the ends of the interior colors as they approached the surface of the marble. Once again, some leeway may be allowed in this process when considering that during the twisting of the glass cane, some offset might occur.

In order to identify a hand-made marble through inspection of the manufacturing process, specific criteria must be met. First, there must be two cut-off marks visible. These marks should be opposite one another, or, at least, nearly opposite one another. In the absence of two cut-off marks, the criteria for 'first off cane' or 'last off cane' must be met. Second, the cut-off marks and the ends of the interior color swirls must be close to each other near the surface of the marble.



Without a marble meeting these criteria, one cannot positively identify that marble as having been manufactured through the hand-made process.

Collector's guides identify hand-made marbles based upon style. Baumann (1991) identifies marbles such as the latticino, the divided core swirl, and the solid core swirl as hand-made, and therefore dating to the nineteenth century. Late nineteenth and early twentieth century mail order catalogs depicted marbles in their toy sections that highly resemble those that Baumann has described as hand-made. A marble depicted in a 1912 Sears, Roebuck and Company catalog and a 1914 Butler Brothers catalog is very similar to, if not *exactly* the same as a marble described as Latticino by Baumann (Schroeder, 1971:161). Hand-made marbles were manufactured until 1920.

Dating of hand-made marbles utilizing the above processes are placed in the latter half of the nineteenth century and the first two decades of the twentieth century. For the purpose of this thesis, hand-made marbles will be identified as manufactured between 1850 and 1920. These dates will overlap the introduction of marbles made by machine.

A caution must be stated regarding hand-made marbles. Modern glass artists are now creating hand-made marbles. Many contemporary hand-made marbles will exhibit characteristics similar to historic hand-made marbles. In instances where the researcher cannot determine if a hand-made marble is contemporary, reliance on archaeological context is imperative.

#### 4.4.2 Machine-Made Marbles

By the end of the nineteenth century, advances in mechanical engineering began to allow manufacturers to make their marbles by machine. The earliest machine-made marbles are identified as 'transition' manufactured marbles. The term 'transition' is employed by collectors and archaeologists alike, and refers to that period of time between hand-made marbles and fully automated machine-made marbles (Baumann 1991; Block 1996).

#### 4.4.3 'Transition' Manufactured Marbles

In the late nineteenth century, the manufacturing of marbles underwent a technological change that began in America. The beginning of this change is referred to as "transition" by Baumann (1991:118-123), and can be dated from 1896 to 1902. Other literature states that "[S]ome transitions were made as late as 1915" (Castle and Peterson, 1992:13).

Transitional marbles are described as "[e]arly machine-made marbles that were made partly by hand and partly by machine. Usually the glass was gathered by hand onto a punt and held over the machine. As the molten glass dripped down to the machine, a worker would snip off the proper amount and allow it to fall into the machine to be formed machine [sic]. The marble usually has one pontil" (Block, 1996:158).

Castle and Peterson state, "[A] pontil mark is a round rough mark that is left on a glass item by a steel rod called a punty or pontil" (1992:12). This is relatively accurate, although the rod was probably not made of steel, but more likely iron. In all cases, 'pontil' marks are created by the disunion of glass and metal. Either the metal of the punty or the metal of the shear or snipper might create these marks.

The literature identifies a number of differing types of 'transitional' cut-off marks. These marks are erroneously called 'pontil' marks in all the collector's literature, but this researcher will bow to this tradition in describing the cut-off marks on 'transitional' machine-made marbles. The differing 'pontil' marks described in collector's literature are:

- Regular pontil transitionals. These are described as having "a pontil on one end that looks just like the pontil on a handmade marble" (Block, 1996:74).
- Ground pontil transitionals. These pontils have been ground and faceted (Block 1996:74).
- Melted pontil transitionals. These pontils have been partially melted into the marble, and often exhibited a characteristic '9' shaped swirl at the pontil pole (Block 1996:74).
- Pinpoint pontil transitionals. These are described as very tiny pontils that resemble the head of a pin, and created by the glass having been too cool when sheared off the punty and dropped on the machine (Block 1996:75).

- Fold pontil transitionals. These are characterized by "a tiny finger of glass that is folded over at the cut-off point and partially melted into the marble surface" (Block, 1996:76).
- Crease pontil transitionals. Described as "characterized by a spidery crease line that runs along the entire bottom of the marble", this type was also caused by too cool glass (Block 1996:77).
- Bullet mold pontil transitionals. These exhibit a rough ground pontil and faint mold marks that run from pole to pole (Block 1996:77).

These tell-tale marks, then, would aid in placing the chronology of a transitional marble into a very tight date range. A difficulty arises, however, when other descriptions of the 'transition' manufacturing process are investigated. Prior (1992:5) describes the manufacturing process as involving "two colors" and "both colors". This appears to indicate that 'transition' marbles would be composed of only two colors with a "swirl design within the marble" (Prior, 1992:5). Block (1996:73) states that "[A]ll transitionals are slag-type marbles of a colored transparent glass with translucent or opaque white mixed in". Consistent with Prior's color description, Block (1996:158) describes a slag-type marble as "a marble made from two different colors of glass that were melted together in the same furnace pot. Due to the differing densities of the glass, they would not melt into a homogeneous color". The researcher must identify a 'transition' marble based on two criteria, a single pontil mark and a two-color design. Unlike hand-made marbles, however, the 'pontil' mark need not be evident only on one pole of the marble. The pole of a marble is the most likely place

to observe a 'pontil' mark, as described in the above transitional pontil mark types. However, illustrations of transitional marbles in collector's guides clearly show these marks not located on or near the poles of the marble. Further attention to the description of the manufacturing process involved in transition machine-made marbles reveals that when the 'pontil' mark is made, it is the result of the disunion of glass and metal. As stated before, this could include either the disunion from the punty, or the disunion from the action of shearing off the designated amount of glass to form a single marble. In the latter case, this shearing does not have to be done at the color pole of the marble. This would explain the presence of 'pontil' marks not located on the poles of the transition marble.

From the above, the researcher may look for single 'pontil' marks anywhere on a two color slag marble, and identify it as a transitional machine-made marble. The presence of these two identifying criteria allows the archaeologist to place the manufacturing date of these 'transitional' marbles at between 1896 and 1915.

#### 4.4.4 Modern Machine-Made Marbles

All other glass marbles found in archaeological collections that are not one of the above types, will, for this thesis, be categorized as modern machine-made marbles. Fully automated machines with improvements in glass temperature sensing and offset rollers created smooth marbles, no longer exhibiting evidence of a 'pontil' or other distinct manufacturing marks. With the exception of post-World War Two Japanese made 6-vane marbles, there is nothing in the literature that identifies specific

characteristics of fully automated machine-made marbles. When encountered, Japanese 6-vane type marbles are identified as such.

It awaits future research to begin to identify recognizable date characteristics of modern machine-made marbles. The M. F. Christensen company was making single-feed machine marbles as early as 1904. This is the earliest reference found for machine-made marbles, and the date range for modern machine-made marbles will be placed from 1904 to 1993 (Block 1996). The last excavation performed at the Smith House was in July of 1993 and is selected as the last date that artifacts would have been introduced into the archaeological record. Figure 4.2 illustrates the comparisons of date ranges for manufactured marbles.

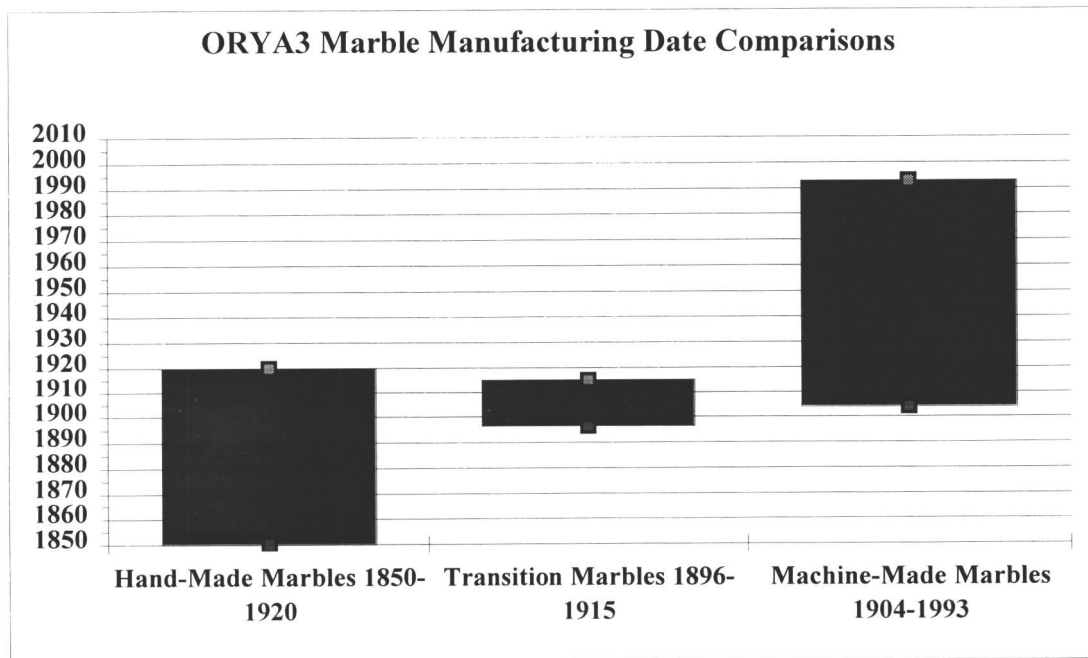


Figure 4.2 Comparison of Date Ranges, Marble Manufacturing

#### 4.5 Clay Marbles

Clay marbles were manufactured from between 1820 to 1910 in the United States. Many clay marbles were simply made by individuals (Prior 1992:3-4). This was done by rolling clay into a roughly spherical shape, and baking in an oven. Manufactured clay marbles might, therefore, be distinguished by a more round appearance than those that were hand-made. There is no guarantee of this however, as some manufactured marbles were described as "not very round" (Prior 1992:4). In any instance, there is nothing in the literature that describes any diagnostic features of clay marbles for either dating purposes or manufacturing specifics.

Ceramic sourcing and dating techniques have been advanced in prehistoric studies in the American Southwest and elsewhere. Future research in clay marbles may include these techniques to source the marble based on element analysis, and possible dates of clay firing through thermoluminescence.

## Chapter 5. TOY ANALYSES AND ASSOCIATIONS

### 5.1 The Smith House Toys

Eighty toys recovered from the Smith House numbers, and toys represent 0.7 percent of the total artifacts collected. This number, when compared with other artifacts classified by Stone, appears rather small if one considers that children were known to have occupied the house for much of its existence. It is necessary to take into account that many other artifact classes analyzed by Stone consisted of ceramic and glass items that were broken. A more exhaustive attempt at crossmending of ceramic sherds and glass containers may have brought the total number of artifacts down considerably, allowing for the percentage of toys to seem more representative. Additionally, the number of window glass fragments recovered likely represented a relatively few full windowpanes, thereby bringing the total artifact count down even further. While a guess at adjusted numbers for artifact count cannot be attempted, it can be reasonably stated that the 0.7 percent representation of toys could be modified upward.

### 5.2 Artifact Descriptions and Measurements

Artifacts discussed in this chapter were analyzed for dating purposes, and other distinguishing characteristics were noted. Appendix C is a full narrative description for all analyzed artifacts, and includes dimensioned line drawings of the doll and doll-related artifacts. Dates of manufacture and how these dates were arrived at are given in



this appendix. The following discussion is partially based on the artifact analysis, and where appropriate, the artifact number will be referenced. When necessary, a short description of the artifact will be given so that referral to Appendix C will be not be needed.

### 5.3 Discussion of Ceramic Doll and Doll-Related Artifacts

The Smith House collection yielded 14 identifiable ceramic doll or doll-related artifacts. One other doll-related artifact, a teaset spoon made of lead (ORYA3-5405) was identified. These 15 doll and doll-related artifacts represent 21 percent of the total identified toys, and represent 0.1 percent of the total artifact count from the Smith House. Of the 15 total doll and doll-related artifacts, seven (47%) were identified as doll limbs, 5 (33%) were identified as doll heads or doll head shoulder plates, and three (20%) were identified as doll-related artifacts (Figure 5.1.)

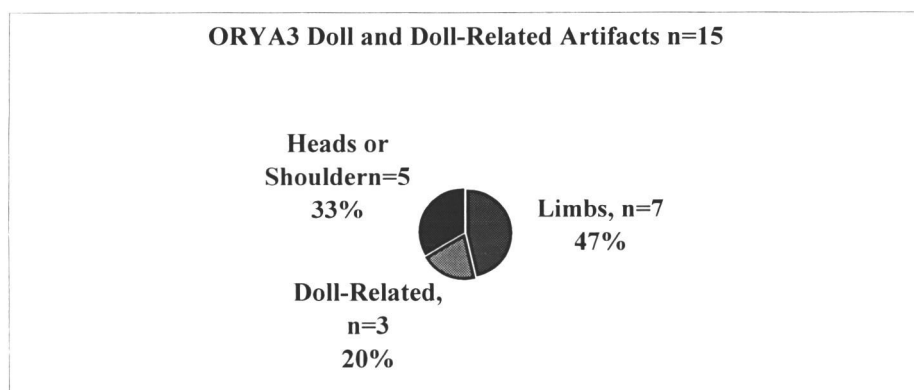


Figure 5.1 Doll Part Percentages

Among the doll and doll-related artifacts identified, three (20%) were complete, while 12 (80%) were broken. Of the broken artifacts, three (ORYA3-2553, ORYA3-2583, ORYA3-6154) exhibited adhesive residuals, indicating an attempt to repair what was likely a valued item or items. These three artifacts represent 25 percent of the broken artifacts, and 20 percent of all doll and doll-related artifacts. The large percentage of broken artifacts indicates that dolls were curated until they were either broken beyond repair or not valued enough to repair. However, the evidence that an attempt to repair some broken doll artifacts indicates that some of the dolls were valued.

Of the three complete artifacts, two are ceramic. The non-ceramic artifact is the lead spoon (ORYA3-5405.) Artifact ORYA3-6256, a doll leg with brown boot painted on, is included in the complete category as it appears to not have been broken beyond its functional use. The 'tie line' on this artifact is complete enough that a cloth body could have been attached to it. Both complete ceramic artifacts are limbs and are of solid paste construction. The wholeness of the artifacts is likely due to this solid construction. The fragility of the rest of the ceramic doll and doll-related artifacts appears to be due to the hollow and thin nature of their construction.

Many of the doll and doll-related artifacts from the Smith House exhibit datable characteristics. Table 5.1 is a list of doll and doll-related artifacts, their manufacturing dates, and how the date was determined. Of the 17 artifacts, seven exhibited no datable characteristics. Of the remaining 10 artifacts, five were dated as manufactured prior to 1890, three were dated as manufactured after 1870, one is dated

Cat #	Material	Description	Date of artifact	Dated By
2553	Ceramic	Doll lower leg fragment	Pre-1890	Press mold
2583	Ceramic	Doll breast plate, 3- hole	Pre-1890	Press mold
4593	Ceramic	Doll arm fragment	Cannot be determined	
4832	Ceramic	Doll breast plate, 2-hole	Pre-1890	Press mold
4982	Ceramic	Doll arm, left, complete	Cannot be determined	
5073	Ceramic	Doll leg segment, fragment	Post 1870	Pour mold
5283	Ceramic	Dish, teaset type	Post 1870	Pour molded
5386	Ceramic	Cup, teaset, or creamer or sugarer	Post 1870	Pour mold
5403	Ceramic	Child figurine, sitting and tying bonnet bow	Cannot be determined	
5405	Lead	Spoon, teaset type	Cannot be determined	
5541	Ceramic	Doll breast plate, 2-hole	Pre-1890	Press mold
5975	Ceramic	Doll boot	1840-1880	Fashion Style
5998	Ceramic	Doll foot and partial leg	Cannot be determined	
6154	Ceramic	Doll breast plate, 3- hole, sloping shoulder	Pre-1890	Press mold
6194	Ceramic	Dog, collie-type figurine	Cannot be determined	
6256	Ceramic	Doll leg with boot	Cannot be determined	
6265	Ceramic	Doll head	1880-1915	Style

Table 5.1 Doll and Doll Related Artifacts

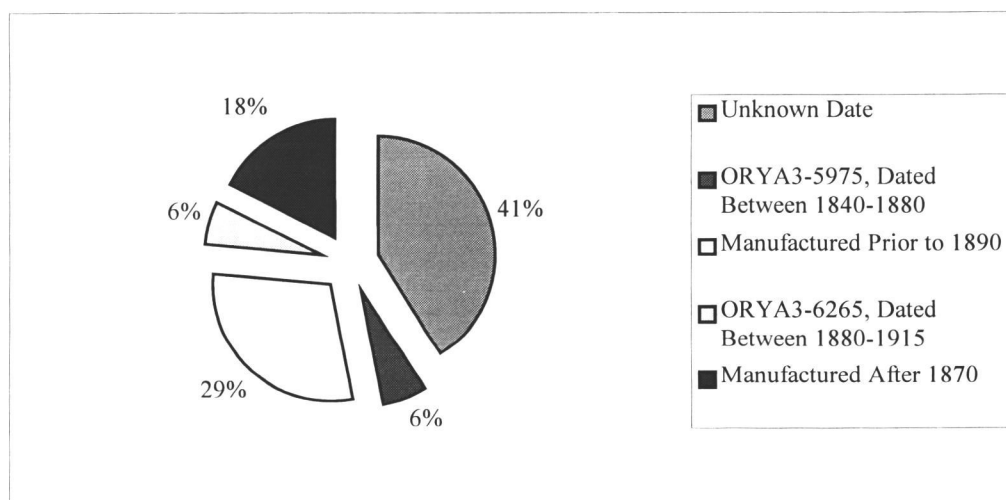


Figure 5.2 Doll Date Percentages

between 1880 and 1915, and one is dated between 1840 and 1880. Figure 5.2 illustrates these percentages.

From inspection of Figure 5.2, it can be seen that the majority (59%) of doll and doll-related artifacts could be identified to a date range. These ranges are illustrated in Figure 5.3. These date ranges fall within the occupation periods of the the Smith House. Dates of manufacturing give the archaeologist a starting point in identifying an artifact's place within the cultural chronology of a site.

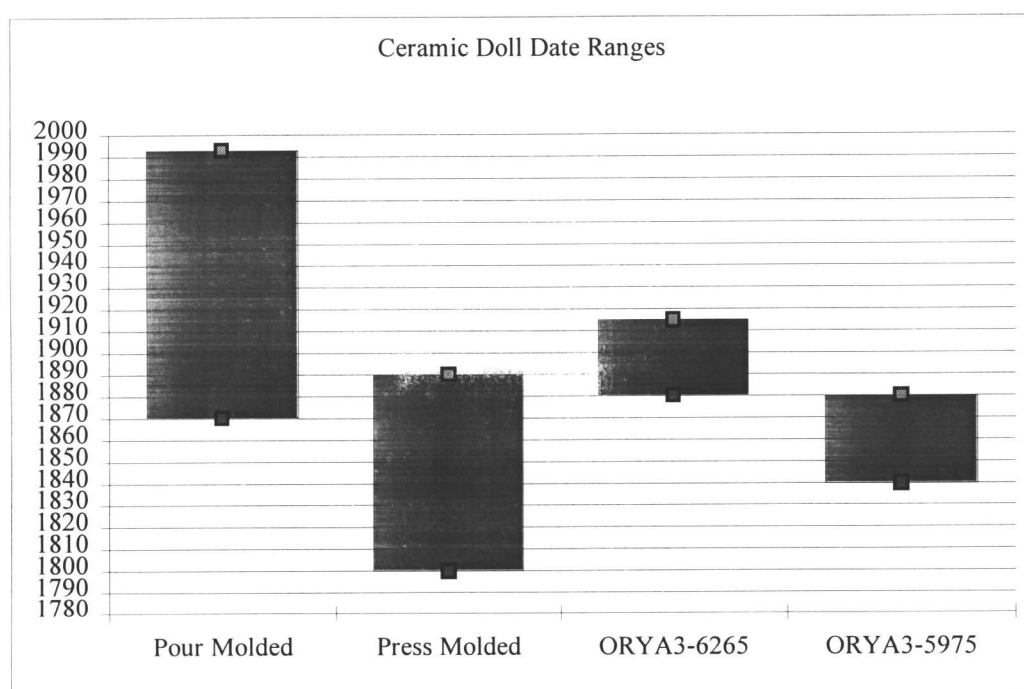


Figure 5.3 Date Ranges of Ceramic Doll Artifacts

#### 5.4 Discussion Of Marbles

Thirty-six marbles recovered from the Smith House. There are four clay marbles in the Smith House collection. This represents eleven percent of the total marble count. Only two marbles were positively identified as hand-made, dating prior to 1920. This represents six percent of the total glass marble count. The remaining glass marbles are all identified as modern machine-made artifacts, dating from 1904 to 1993.

Table 5.2 lists the identified marbles of the Smith House, along with their dates of manufacture and attributes. Of the total marbles, the smallest and largest diameters are least represented. Seven-sixteenth inch, one-half inch, and seven-eighth inch marbles comprise only twelve percent of the total marble collection. Figure 5.4 illustrates this disparate percentage. This is consistent with collector's guides that list the smallest and largest diameter marbles as more rare. Turn of the century mail order catalogs regularly advertised the more popular five-eighth inch and three-quarter inch marble sizes. These same catalogs reflect the increased prices that the largest marble sizes demanded.

Cat #	Mat. Type	Description	Date of artifact	Pattern
3919	Clay	Marble, Opaque	unknown	None
5297	Clay	Marble, Opaque	unknown	None
5913	Clay	Marble, Opaque	unknown	None
6260	Clay	Marble, Opaque	unknown	None
1205	Glass	Marble, semi-Transparent	1904-1993	None
3711	Glass	Marble, Transparent	1904-1993	Clearie
3712	Glass	Marble, Transparent	1904-1993	6-vane
3877	Glass	Marble, Opaque	1904-1993	Swirl
4564	Glass	Marble, Translucent	1904-1993	Swirl
4565	Glass	Marble, Translucent	1904-1993	None
4712	Glass	Marble, Opaque	1904-1993	Swirl
4774	Glass	Marble, Opaque	1904-1993	Swirl
5001	Glass	Marble, Translucent	1904-1993	Akro Agate Moonie
5002	Glass	Marble, Opaque	1904-1993	None
5272	Glass	Marble, Transparent	1904-1993	Clearie
5738a	Glass	Marble, Opaque	1904-1993	None
5738b	Glass	Marble, Opaque	1904-1993	None
5774	Glass	Marble, Transparent	1904-1993	6-vane
5777	Glass	Marble, Transparent	1850-1920	Swirl
5778	Glass	Marble, Opaque	1904-1993	None
5809	Glass	Marble, Opaque	1904-1993	None
5810	Glass	Marble, Opaque	1904-1993	None
5907	Glass	Marble, Semitransparent	1904-1993	None
5910	Glass	Marble, Transparent	1904-1993	6-vane
5988	Glass	Marble, Opaque	1904-1993	Swirl
5989	Glass	Marble, Transparent	1850-1920	Swirl
5990	Glass	Marble, Opaque	1904-1993	Swirl
5991	Glass	Marble, Opaque	1904-1993	Swirl
5992	Glass	Marble, Opaque	1904-1993	Swirl
6193	Glass	Marble, Opaque	1904-1993	None
6261	Glass	Marble, Opaque	1904-1993	None
6262	Glass	Marble, Transparent	1904-1993	6-vane
6263	Glass	Marble, Opaque	1904-1993	Swirl
6264	Glass	Marble, Opaque	1904-1993	Swirl
6820	Glass	Marble, Opaque	1904-1993	Swirl
6821	Glass	Marble, Transparent	1904-1993	6-vane

Table 5.2 Marble Artifacts, Dates and Attributes

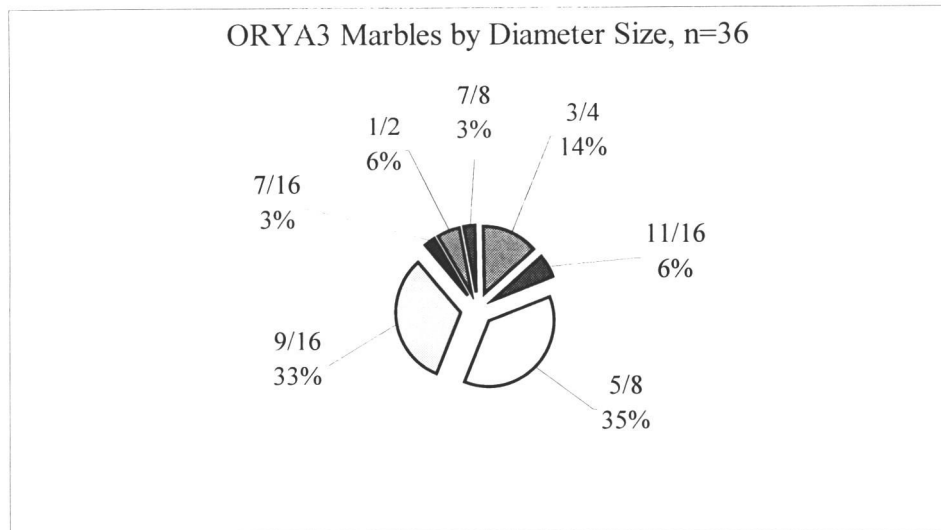


Figure 5.4 Marble Diameters by Percent

Of the total marbles from the Smith House, the great majority are either opaque or transparent. Only fourteen percent of the marbles are of the semi-transparent or translucent descriptive variety. These percentage distributions may be indicative of a more difficult and expensive process necessary to produce a translucent or semi-transparent marble.

Patterns among the Smith House marble collection show that the preponderance of marbles exhibit no pattern. Those marbles lacking in patterns include the clay marbles. Marbles with no pattern include those marbles that might be found in historical contexts other than game marbles. This includes those marbles identified as possible voting marbles. Opaque, no pattern black and white marbles were used in club voting. Swirl patterns comprise the next largest group of marbles. This researcher opted to list these marble types by the simple term 'swirl', even when collector's and retailer's terms might differ. Collector's terms vary from book to book. In this instance, when an 'oxblood' type marble was found, the ultimate descriptive

pattern was still selected as swirl. Conversely, the terms 'moonie' and 'clearie' are consistent in both collector's and mail order documentation, and are used as distinctive pattern types. Additionally, 6-vane type marbles are purely descriptive in nature, as these are often called 'cat's-eyes'. The presence of 6-vane marbles as representing fourteen percent of the marble collection is consistent with the introduction of this type marble in the second half of the twentieth century.

Of the machine-made marbles, six of them exhibited manufacturing marks that might assist in dating, but could not be identified as 'transitional' based upon the given criteria. These marks are all identifiable under close inspection as manufacturing scars. Further inquiry into modern machine manufacturing processes and style changes in the twentieth century may provide better dating information.

The presence of the two hand-made marbles indicate the likelihood that marbles were used during the nineteenth century or early twentieth century occupation dates of the Smith House. Because the original provenience of these two marbles is unknown, house room associations may be analyzed to provide further information about them. These associations will be explored below.

## 5.5 Artifact Room Associations

At the Smith House, cultural deposits were described as having no clear stratigraphic relationships. Stone described the cultural materials excavated from the Smith House as "mixed or churned", in that no clear stratification was present (1997:30.) Because of this churned condition, the site was excavated as a single component. This excavation method removed the ability to record exact locations of



artifacts. Association, however, was maintained at the macro level. These associations were based on test pit alphabetic designators. Artifacts recovered from any single test pit, while stratigraphically homogeneous, were unique to that unit.

By studying datable artifacts removed from any single test pit, broad date associations can be attempted. Stone analyzed a number of artifact types for datable characteristics (1997). Analyzed artifacts were placed into association with rooms, and each room was assigned a numeric designator.

Figure 5.5 is a plan view of the Smith House with labeled association proveniences. Provenience F, not shown, is associated with material that was surface collected by the preservation crew. Some artifacts were identified as having no provenience, and will not be analyzed in this section.

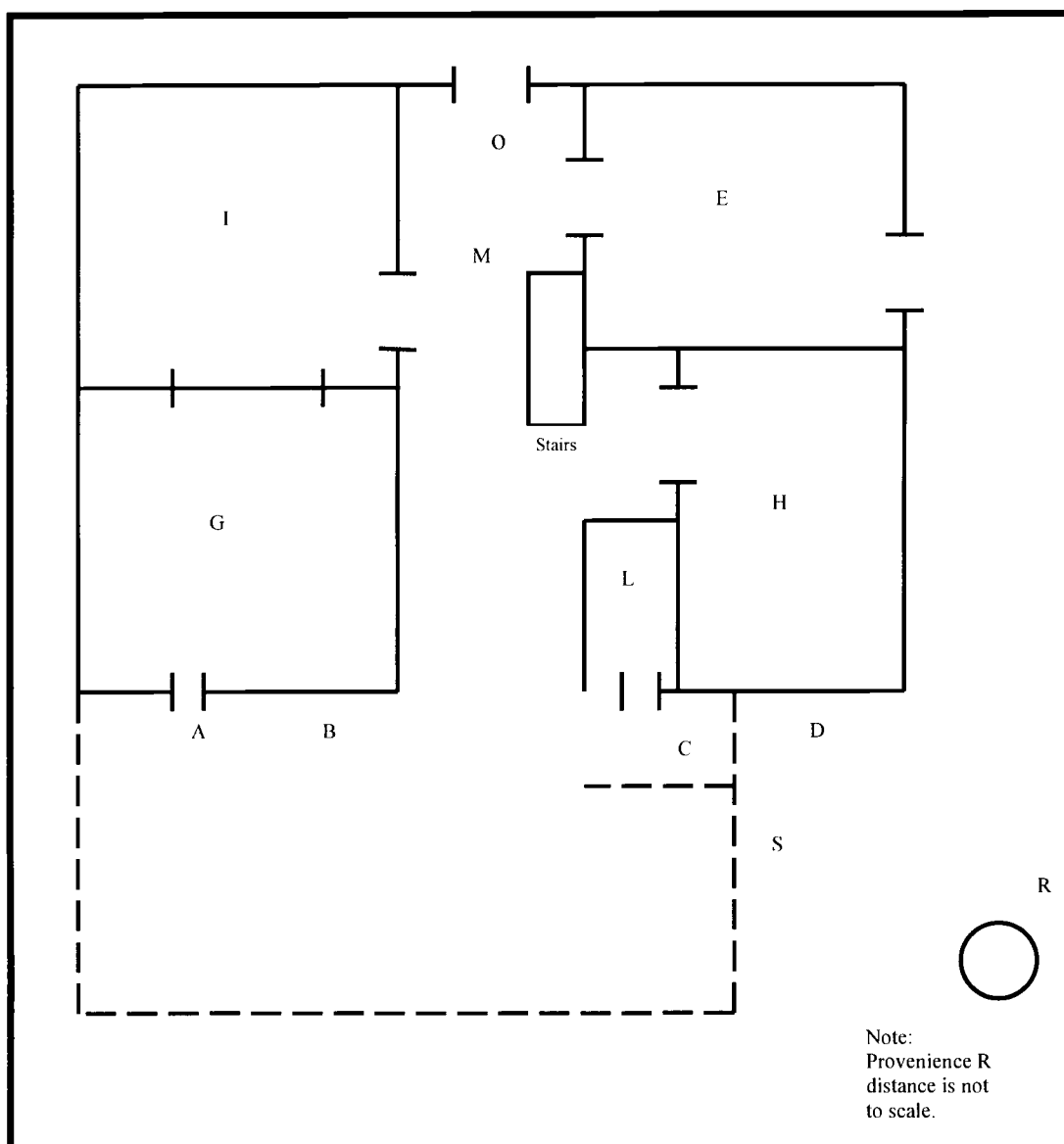


Figure 5.5 The Smith House House Plan View with Room Associations

Room associations of dated doll and doll-related artifacts were analysed and are illustrated in Figure 5.6. The preponderance of doll and doll-related artifacts associated with rooms B and C, the house addition of 1862-1863, does not allow any clear conclusion to be drawn. The house addition was made only 3 to 4 years after the

original house construction of 1859, allowing little time for the deposition of these artifacts. No doll or doll-related artifacts were recovered from the trash pit.

Figure 5.7 illustrates marbles and room associations. Inspection of marble associations reveal that the most marbles were recovered from associations C and H. . This concentration cannot be commented upon, as it is unknown what rooms the many different occupants of the house used for what purposes. Marbles were generally found throughout the different rooms and would indicate children could be found in most locations. It is noteworthy that the only marble found in the trash pit is ORYA3-1205, the marble broken in half. This would indicate that marbles were not discarded unless damaged beyond their functional capability. It would seem that all the other marbles were most likely lost.

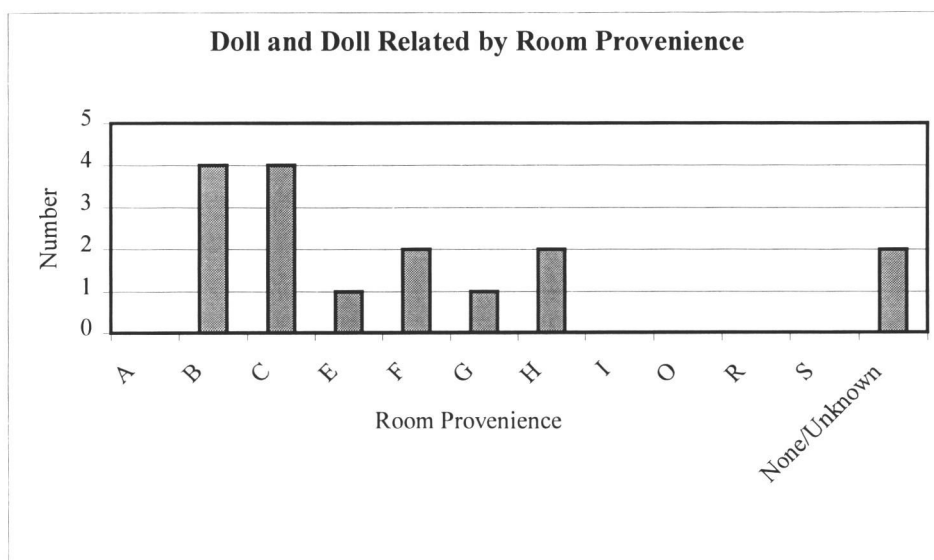


Figure 5.6 Doll and Doll Related Artifacts by Room Provenience

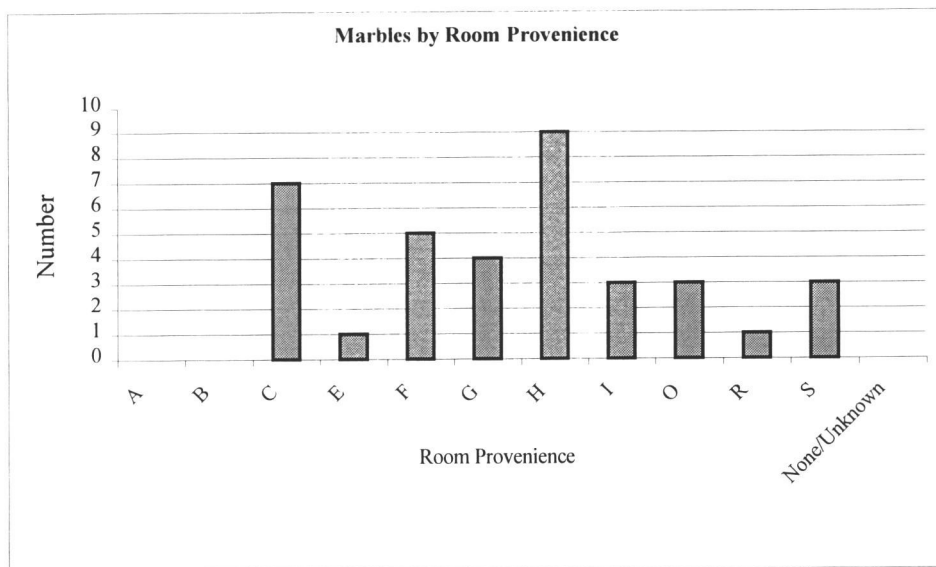


Figure 5.7 Marble Artifacts by Room Provenience

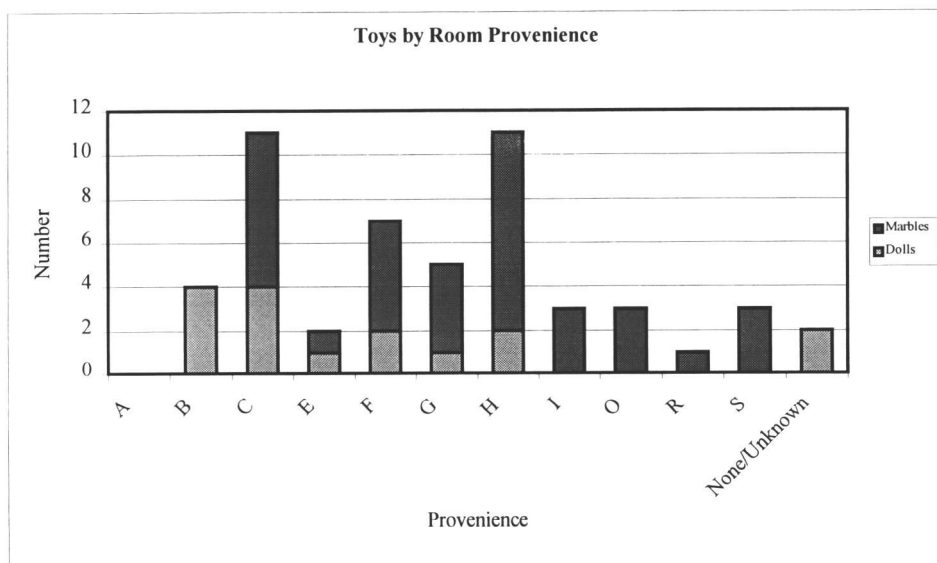


Figure 5.8 Toy Artifact by Room Provenience

Associations of doll and marble artifacts are illustrated in Figure 5.8. From this figure, it can be seen that toy artifacts were fairly evenly distributed throughout the area, with the exception of the trash pit (R) and surface collection (S). There is no correlation between the dated marbles and dated dolls in association with room proveniences. From this distribution, it is clear that children were present and their toys were lost or discarded throughout the house.

## Chapter 6. FINDINGS AND RECOMMENDATIONS

### 6.1 Findings

Artifacts recovered from the Smith House provide broad research potential. As a continuously occupied domicile from the early pioneer period of the frontier west to the late twentieth century, the site is a valuable time capsule of material culture.

The study of marbles and dolls, as a distinct artifact type, has been attempted by this thesis. As artifact types marbles and dolls may provide information regarding enculturation processes. In the instance of the Smith House, however, this was not accomplished. Lack of clear proveniences and a minimal historical record have obscured evidence of the enculturation process.

Marbles and dolls are ubiquitous artifacts at domestic sites. When found, conclusions about child occupants may be anticipated. To properly place these toys with child occupants of a domicile, selected artifact types must be analyzed and dated. This dating, coupled with a date range of child occupancy, could possibly provide the researcher with information about those children. For child residents of the Smith House, some of the dated artifacts might be associated with Smith House children.

It has been demonstrated that selected toy artifacts can be analyzed. It has been shown that toys were valued as evidenced by the residual adhesives found on broken doll parts. This is indicative of an attempt to repair a cherished toy. This

analysis provided date range information regarding marbles and doll and doll-related artifacts. These date ranges can serve to inform other researchers about these artifact types. There is an inherent value in establishing date criteria and performing analyses, as these artifact types will be recovered from domestic sites excavated in the future.

Doll and doll-related artifacts manufactured after 1870 (pour-mold) may be associated with the Jones or Harris children. Doll and doll-related artifacts dated to before 1890 may be related to the Smith or Jones children. Louise Jones may well have favored a pre-1890 press mold manufactured doll in 1895. Hand made marbles may be associated with the Smith, Jones, or Harris children. Harry Jones may have played with the Latticino marble in 1895. While dolls seem more likely to be curated over a longer time period, nothing indicates that favored marbles were not also passed along from generation to generation. Associations of toys with children of the Smith House can be made, but datable associations are more difficult to ascertain. It is clear that associations with *specific* child occupants of the Smith House cannot be made.

In attempting to answer initial thesis questions, the analysis of the selected artifact types produce varying levels of success. Criteria for establishing manufacturing dates or style dating have been created. Date ranges of manufacture have been established. Room associations have been organized. Associations between marbles, dolls, and doll-related artifacts have been accomplished.

This study identified six doll artifacts that could be dated to the nineteenth century. Two of these dated doll parts fit together and residual adhesive was found on their edges. Expensive and difficult to transport, dolls in the mid-nineteenth century

were rare and cherished toys. Two marbles were also dated to the nineteenth century. The rarity of nineteenth century toys suggests that the study of toys in historical archaeological contexts can be used to study occupants of a domestic site. Because of their rarity in frontier nineteenth century sites, the presence of datable ceramic dolls can be used to study social status of these occupants. The occupants of the Smith House prior to 1900 had the means to buy and/or transport these expensive dolls to Dayton, Oregon.

The analysis of toy artifact types is problematic. Even when the types of toys are narrowed in the smaller categories of marbles and dolls, they present myriad problems in analysis. Difficulty in obtaining precise information about manufacturing techniques has hampered this research. Specifically, no known published reports indicate when and how manufacturing techniques changed in ways morphologically identifiable by archaeologists. Information about manufacturing changes was gleaned from collector's guides.

This thesis contains further information about manufacturing technologies for dolls, doll-related artifacts, and marbles. Specific dating tools such as style, mold processes, or marble-making processes allow the researcher to place toys within chronological contexts. These tools can be useful to future research into children's toys.

The presence of toys at the Smith House confirms the historical record of child occupation, but is insufficient to support enculturation models.

The inability of this thesis to associate toys with specific child occupants of the Smith House or to support the enculturation model may be explained. Frontier



domestic archaeological sites have very shallow stratigraphy. These depths may only reach to 20 centimeters and are susceptible to the churning that was found at the Smith House. Site formation processes must be fully understood before excavation methodologies are chosen. Without a collection of toy artifacts obtained with better *in situ* proveniences and with clearer associations to other datable artifacts, it will remain difficult for the historical archaeologist to apply toys to models of enculturation.

## 6.2 Recommendations

As a result of this thesis, this researcher makes the following recommendations for guiding future research in the arena of children and toys in the archaeological record and for guiding further research specifically at the Smith House.

Stone's chapter on discussions and recommendations proposes a more in-depth study of particular artifact types, (1997: 101-3) because her analysis neither tied any specific artifact with known site occupants nor provided useful information about room functions. Before future analysis of artifact types collected from the Smith House, I recommend that the researcher understand the difficulty inherent in having no clear artifact proveniences or associations. I suggest that excavation methodology performed on future historic domestic sites include a thorough study of site taphonomy. A greater understanding of the site formation process and intricate study of the nature of site deposits will provide a better basis for artifact and room function analyses.

Given the proper research questions, such as consumer choice over time, a researcher can add to the body of knowledge regarding occupants of the Smith House. It should be clearly understood before undertaking research on the remaining artifacts collected from the Smith House that only gross proveniences are available.

The rarity of toys in frontier historical domestic sites begs questions for future research. Why aren't more toys found at these sites? Were children's toys considered too burdensome by immigrants to include as part of the wagon manifest? Were children's toys too expensive to purchase by homesteaders when the need for working tools overrode the child's desire?

I recommend that pre-historians, too, consider how they study and relate to archaeological assemblages. Pre-historic sites were occupied by children, as were historic sites. Pre-historic sites undoubtedly contain a representative amount of child artifacts. It is vital that the pre-historian look at sites in light of this fact, and begin to recognize children of the past.

The paucity of information regarding children's toys and their manufacturing chronologies presented a daunting task to this researcher. That other avenues of collecting information about marbles and dolls are available is not in dispute. Patent records or other printed materials that would assist the archaeologist in dating toys often overtax the researcher's time and budget. It is hoped that the information collected and presented in this thesis will assist future historical archaeologists in peopling the historic past with children.

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## APPENDICES



## APPENDIX A

Catalog No.	Description	Material Type	Provenience
5778	Marble, Opaque	Glass	H
6821	Marble, Transparent	Glass	H
6262	Marble, Transparent	Glass	F
4774	Marble, Opaque	Glass	E
5992	Marble, Opaque	Glass	C
4564	Marble, Translucent	Glass	C
4712	Marble, Opaque	Glass	S
5989	Marble, Transparent	Glass	C
5001	Marble, Translucent	Glass	G
5913	Marble, Opaque	Clay	O
4565	Marble, Translucent	Glass	C
3877	Marble, Opaque	Glass	G
1205	Marble, semi-Transparent	Glass	R
5990	Marble, Opaque	Glass	C
5777	Marble, Transparent	Glass	H
6193	Marble, Opaque	Glass	I
3711	Marble, Transparent	Glass	H
3712	Marble, Transparent	Glass	H
5988	Marble, Opaque	Glass	C
5910	Marble, Transparent	Glass	O
3919	Marble, Opaque	Clay	G
5774	Marble, Transparent	Glass	H
6261	Marble, Opaque	Glass	F
5272	Marble, Transparent	Glass	S
6264	Marble, Opaque	Glass	F
5907	Marble, Semitransparent	Glass	O
5738a	Marble, Opaque	Glass	I
5738b	Marble, Opaque	Glass	I
5810	Marble, Opaque	Glass	H
5297	Marble, Opaque	Clay	S
6260	Marble, Opaque	Clay	F
6820	Marble, Opaque	Glass	H
5991	Marble, Opaque	Glass	C
6263	Marble, Opaque	Glass	F
5002	Marble, Opaque	Glass	G
5809	Marble, Opaque	Glass	H
4413	Molded bugler/ WWI vintage	Plastic	E
4415	Two wheels and axle	Plastic/Metal	E
6685	Wheel	Rubber	H
3311	Pine cone	Plastic	H
4477	Game token?	Plastic	E
7122	Football player	Plastic	E
5776?	Whistle mouth piece	Plastic	H
6516	Frog (hopping)	Metal	H
5106	Checker	Plastic	None
3655	Golf club	Plastic	None
5105	Golf ball	Plastic	None
5884	Dish	Plastic	A
7062	Dish	Plastic	E

Smith House (ORYA3) Toys

## APPENDIX A (CONTINUED)

Catalog No.	Description	Material Type	Provenience
3887	Golf Ball interior	Rubber	G
5909a	Dart	Plastic	A
5909b	Dart	Plastic	A
3932	Mouse	Plastic	G
5708	Dog	Plastic	I
2640	Camera	Plastic/Metal	G
5711	Checker	Plastic	I
4979	Floral peice	Plastic	I
5903	Airplane Wing	Plastic	O
6619	Airplane Vertical Stabilizer	Plastic	E
6007	WWII Vintage Bomber Airplane	Plastic	E
0623	Child and Pig figures	Lead	A, S 1x2
5403	Child figurine, sitting and tying bonnet bow, complete	Ceramic	H
5405	Spoon, teaset type	Lead	H
5386	Cup, teaset, or creamer or sugarer	Ceramic	B
2553	Doll lower leg fragment	Ceramic	B
4593	Doll arm fragment	Ceramic	C
4982	Doll arm, left, complete	Ceramic	None
4832	Doll breast plate, 2-hole, sloping shoulder	Ceramic	E
2583	Doll breast plate, 3- hole, sloping shoulder	Ceramic	G
6154	Doll breast plate, 3- hole, sloping shoulder	Ceramic	B
5073	Doll leg segment, fragment	Ceramic	None
6194	Dog, collie-type figurine	Ceramic	I
5975	Doll boot	Ceramic	C
5541	Doll breast plate, 2-hole	Ceramic	C
6265	Doll head	Ceramic	F
6256	Doll leg with boot	Ceramic	F
5283	Dish, teaset tyope	Ceramic	B
5998	Doll foot and partial leg	Ceramic	C
5719	Ball	Rubber	unknown
unknown	Figure	Plastic	unknown

Smith House (ORYA3) Toys (continued)

## APPENDIX B

## Chronology of Doll Manufacturing

Date	Location	Information
1500s	Germany.	Doll industry is believed to have originated in Thuringen.
1550	Germany	British customs records list importation of dolls and doll heads, including possible ceramic.
1600s	Germany.	Thuringian region produces toys, dolls amongst them.
Ca. 1700	Germany.	Composition dolls process created
1820	Germany.	Papier-mâché dolls begin being made.
1840s	Germany.	China head, or glazed porcelain, manufactured.
1840-1855	China Head Dolls.	Orin Woodford (United States) sells dolls with china heads and cloth bodies One of the earliest references to United States sales, but it is unclear if the reference meant that Woodford was manufacturing dolls.
1840-1860	Germany.	Great variety in china heads. Short necks models represented children, long necks represented adults.
1850	Germany.	Doll manufacturing assumes conspicuous proportions
1851	Germany	In Sonneberg, a school is established for children to be taught modeling and coloring of dolls.
1858	China Head Dolls.	Ludwig Greiner hairdo type made in a 3-piece mold with mold lines on either shoulder and down the center back.
1860-61	United States	China Head Dolls. <u>American Day Book</u> of John D. Robbins illustrates china heads imported for sale.

## APPENDIX B (CONTINTUED)

## Chronology of Doll Manufacturing (continued)

Date	Location	Information
1865	France	Doll eyes are made of porcelain.
1870s-1880s	Europe	China Head Dolls. Some dolls have pierced ears and blond hair.
1870	Germany	Poured mold process for dolls heads. Pressed process still used for some years thereafter.
1873	France.	Prior to this time, dolls were shaped and dressed as young girl or lady. Baby dolls now become more evident. M. Jumeau perfects true bébé (infant or baby) doll.
1880	Europe	China Head Dolls. Prior to this time most china head dolls were pressed. Pressed dolls have less smooth interior surface, evidence of bubbles, non-uniform thickness. Lady dolls move out of fashion, and children become more popular. Flat-top hair and a 'stereotype low-brow' comes into fashion.
1884	Britain	Hand manufacturing of dolls with a composition poured process is described.
1884	United States	China Head Dolls. China head and limb dolls with muslin bodies widely advertised. Some gold boots noted, probably overglaze.
1885	United States	China head dolls' babies' being advertised. All-china dolls and separate china heads advertised in Horsman.
1887	China Head Dolls	Flat-top heads, with china arms and legs (legs with high boots with tassels are described).
1888	France	Some doll heads still made using the pressed mold process.
1890	America	McKinley Tariff Act. Imports are taxed by weight, thereby making the poured process more cost-efficient for importers.
1890	France	Glass eyes are used in many doll styles.
1892	France	Doll heads are now poured mold.

## APPENDIX B (CONTINTUED)

## Chronology of Doll Manufacturing (continued)

Date	Location	Information
1899	France	Formation of Société Française de Fabrication de Bébés et Jouets (S.F.B.T.).
Ca. 1900	France	Hand-blown glass eyes process is mentioned.
1902	America	Two-part mold for porcelain and composition dolls heads, arms, and legs introduced using the poured mold process.
1910-1920	Germany	A five-piece bent limb composition doll is introduced.
1912	Germany	At this time, it is thought that the best doll heads were manufactured here, with Germany being the market leader.
1912	France	Special divisions of doll factories devoted to dresses and hats, wherein the 'latest styles' are copied. Doll styles are "counterpart of the stylish French woman of the period" (Coleman, 1986:768 #60). Character dolls are mentioned. Character dolls created to represent different nationalities.
1915	France	Still dependent upon Germany for materials and parts. Reference to poured mold process. Shoes, gaiters, slippers, and boots made for dolls. Retail doll prices from 20 to 50 cents.
1917	Britain	During the war, Staffordshire potters are manufacturing china head dolls, having only three years (1914) experience in making of porcelain dolls.
1918	Britain	Beginning to make jointed dolls.
1919	Britain	'Sleeping eyes' type dolls are made, wherein eyes close when laid upon back.
1922	Britain	Machine made dolls, hair dressed by hand, expressions painted by hand.

## APPENDIX B (CONTINTUED)

## Chronology of Doll Manufacturing (continued)

Date	Location	Information
1927	America	Doll voices included in manufacturing. Reideler advertises manufacturing china dolls in US. China heads and limbs.
1938	America	China dolls advertised with 'blonde or jet hair'.
1940s	America	Ruth Gibbs in New Jersey makes original china-head dolls inspired by the early flat top and plain hairdo types.

## APPENDIX C

### Artifact Descriptions

#### ORYA3-5405

This artifact is a playhouse tea set spoon. Figure C.1 is an illustration of this artifact. The material is lead. The artifact measures 1 and 1/2 inches (3.81 centimeters) in length. At its widest, the artifact measures 1/2 inch (1.27 centimeters.) Height of the spoon is 1/4 inch (0.64 centimeters.) The thickness of the handle is 1/16 inch (0.16 centimeter), while the thickness of the spoon portion is less than 1/32 inch (less than 0.08 centimeter.) The handle measures 9/32 inch (0.71 centimeter) at its widest and 1/8 inch (0.32 centimeter) at its narrowest. The filigreed portion of the handle measures 5/8 inch (1.59 centimeters), with the basal part of the filigree measuring 1/4 inch (0.64 centimeter.) The narrow portion of the handle measures 1/4 inch (0.64 centimeter) in width. The overall length of the handle is 1/2 inch (1.27 centimeters), and the overall length of the spoon portion is 1 inch (2.54 centimeters.)

It appears that the manufacturing process for this spoon was a press mold of some type. The mold included filigree work on the handle, and a concave spoon portion. There is a mold line visible on the edge of the handle, but the line disappears when approaching the spoon portion. The lead material exhibits some signs of deterioration along the edge of the spoon near the handle, possibly due to oxidation and the thinness of the material at this area. The filigree is rather intricate, but is not uncommon for this type of toy. The spoon portion is disproportionate to the handle, but again this was common. This artifact was likely once a part of a larger doll house tea set or simply a tea set itself, and may be associated with artifact numbers ORYA3-

## APPENDIX C (CONTINUED)

5283 and ORYA3-5386. There are no characteristics about this artifact that allow the researcher to accurately date it.

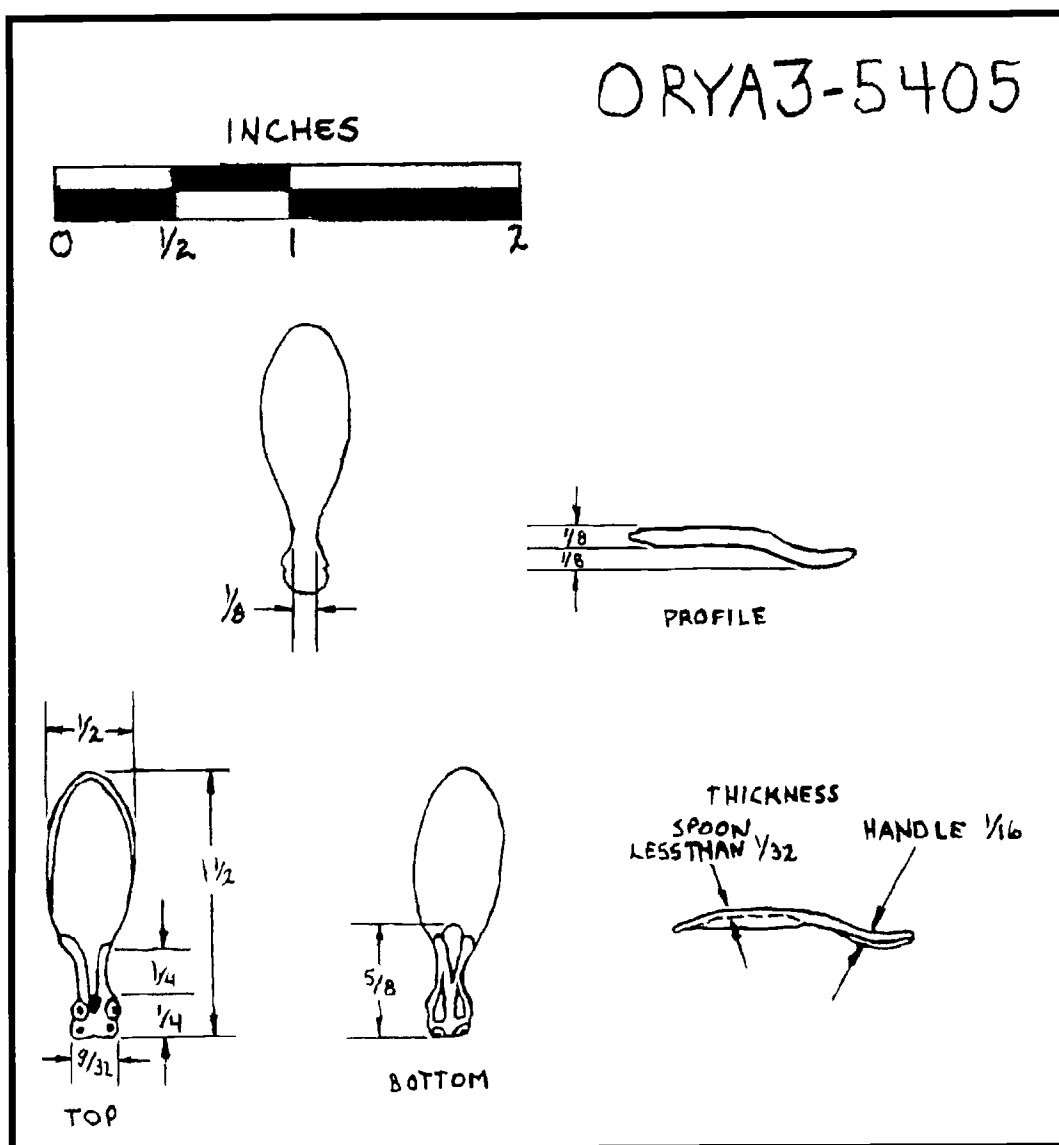


Figure C.1 ORYA3-5405 Illustration



## APPENDIX C (CONTINUED)

ORYA3-5283

This artifact is a fragmentary tea-set bowl. Figure C.2 illustrates the artifact. The material is white clay ceramic. The glaze is clear, with a green paint overglaze along the inner rim of the bowl. The design of the bowl consists of a scallop-type interior that slopes inward toward the bowl bottom. The scallop is evident on the interior only, with the exterior sloping smoothly toward the foot. There is a pronounced foot on the bottom of the bowl. The artifact measures  $1 \frac{3}{8}$  inches (3.49 centimeters) at its widest, with an extrapolated diameter of  $1 \frac{1}{2}$  inches (3.81 centimeters.) The diameter of the inner circular portion of the bowl is  $\frac{1}{2}$  inch (1.27 centimeters.) The scallop measures an average of  $\frac{3}{8}$  inch (0.95 centimeter) at its widest at the rim. The scallop measures an average of  $\frac{3}{36}$  inch (0.48 centimeter) at its narrowest at the inner circular portion of the bowl. The average thickness of the artifact is  $\frac{1}{16}$  inch (0.16 centimeter.) The height of the bowl is  $\frac{5}{16}$  inch (0.79 centimeter.) The foot of the bowl is  $\frac{11}{16}$  inch (1.75 centimeters) in diameter, measured on center. The foot is  $\frac{1}{16}$  inch (0.16 centimeter) high and  $\frac{1}{16}$  inch (0.16 centimeter) wide. On cross-section, the edge of the bowl is  $35^\circ$  from the horizontal. This angle and the resulting depth of the interior of the artifact would indicate that it is a bowl, as opposed to a dish. There are no mold lines apparent on the bowl, thereby providing no clue as to the manufacturing technique involved. A portion of the foot of the bowl is roughened, a characteristic that on non-toy ceramics would indicate heavy usage. The rough areas, however, are confined to only a portion of the foot, indicating

## APPENDIX C (CONTINUED)

that this may be part of the molding and/or manufacturing process. An additional possible diagnostic indicator of the manufacturing process can be found in the relative uniformity of material along the edge of the artifact where it was broken. This uniformity is an indicator of a poured mold process, thereby dating this artifact to sometime after 1870. Caution should be exercised in this assumption, however, as no clear evidence has been found by this researcher that indicates that tea-sets were manufactured using the same processes as for ceramic dolls.

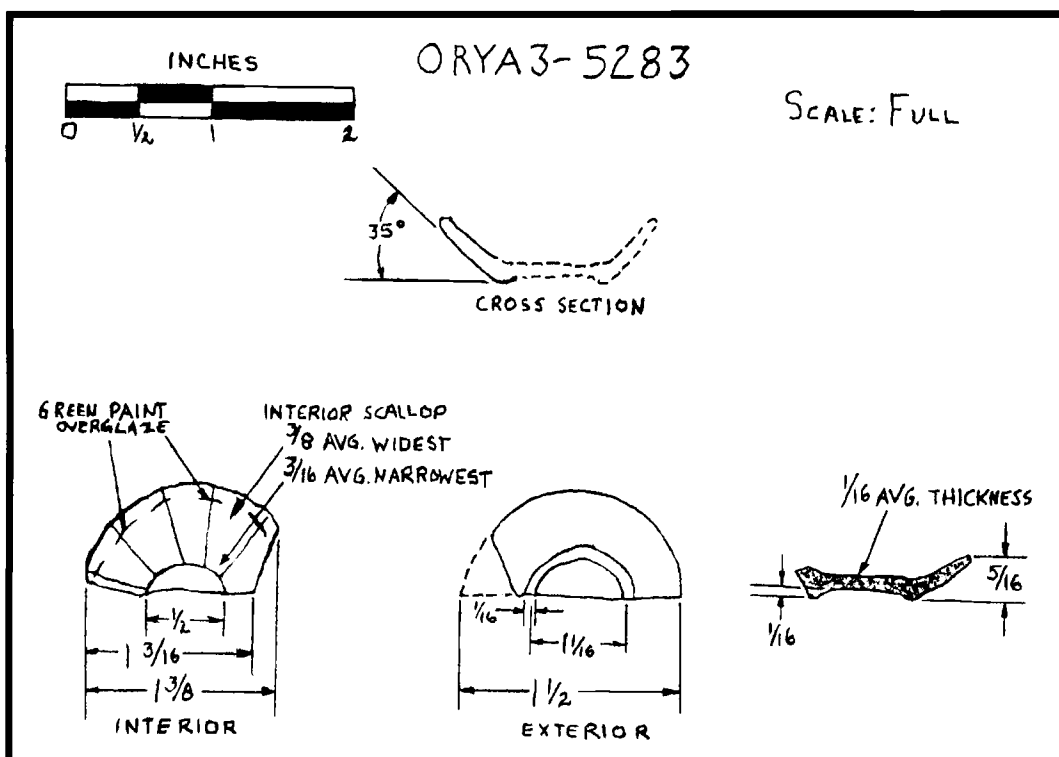


Figure C.2 ORYA3-5283 Illustration

## APPENDIX C (CONTINUED)

ORYA3-5386

This artifact is a tea-set pitcher fragment. Figure C.3 illustrates the artifact. The material is white clay ceramic, and the glaze is clear. There is a green paint overglaze along the inner rim of the artifact. The artifact measures  $\frac{5}{8}$  inch (1.59 centimeters) in height. The base of the pitcher is  $\frac{3}{8}$  inch (0.95 centimeter) in diameter. The extrapolated inside diameter of the rim is  $\frac{7}{16}$  inch (1.11 centimeters), while the extrapolated outside diameter of the rim (excluding the spout) is  $\frac{5}{8}$  inch (1.59 centimeters.) The thickness of the handle is  $\frac{3}{32}$  inch (0.24 centimeter.) The thickness of the pitcher at the rim varies from  $\frac{1}{16}$  inch (0.16 centimeter) to  $\frac{3}{32}$  inch (0.24 centimeter.) Upon initial inspection, this artifact might be mistaken for a tea-cup, but the presence of an elongated, exaggerated spout suggests otherwise. Additionally, while a handle of the appearance that is attached to the pitcher can be found on both tea-cups and pitchers, the spout and the fact that the height and outside diameter of the vessel are equal suggest that the vessel was intended to be a pitcher, perhaps for cream. Irregular marks on the base of the vessel may be indicative of mold-breaks. The design of the pitcher exhibits an inverted scallop on the exterior of the vessel, with the broader part of the scallop at the rim and narrowing toward the base. The interior part of the vessel is smooth, sloping to the inner base. Once again, there is uniformity to the thickness of the artifact, indicative of a pour mold process. This may allow the researcher to date the artifact as being manufactured after 1870. As with ORYA3-5283, caution should be exercised in placing the date of the artifact based on the possibility of pour molding. There is nothing in the literature that indicates tea-set

## APPENDIX C (CONTINUED)

mold manufacturers followed the lead of doll-part mold manufacturers, adopting the process at the same time.

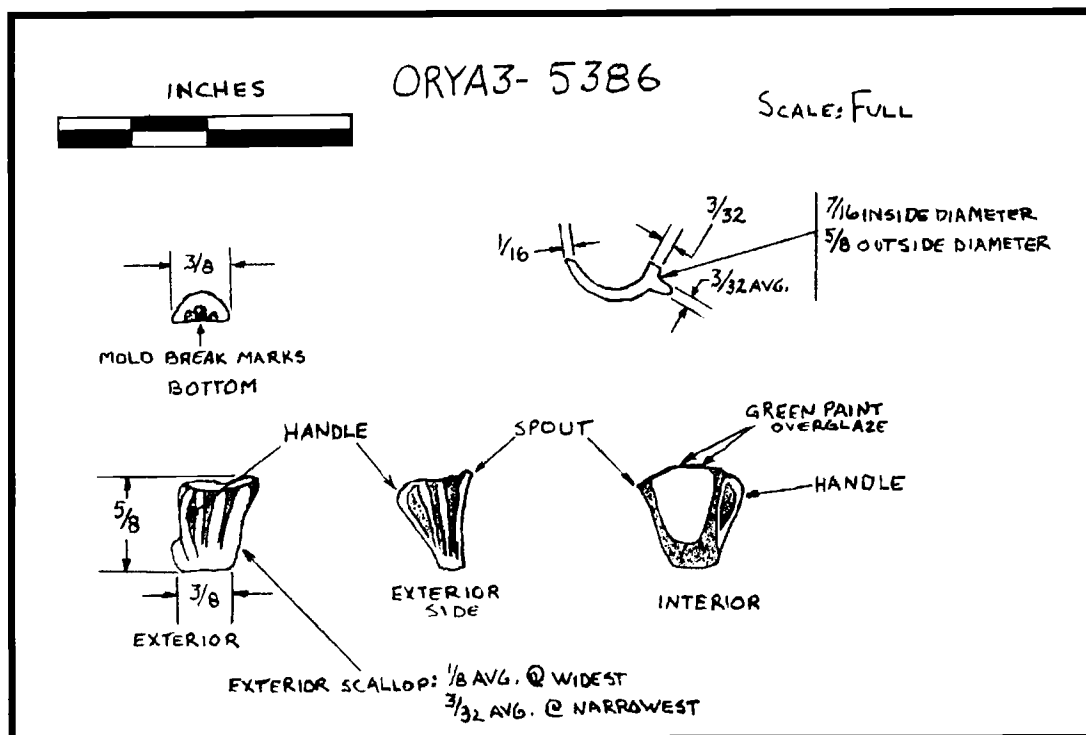


Figure C.3 ORYA3-5386 Illustration

## ORYA3-4832

This artifact is the fragmentary upper-body part of a doll. Figure C.4 illustrates the dimensions and views of this artifact. The material is white clay ceramic. The glaze is clear. This doll artifact would be placed in the 'china' category. It measures  $1\frac{7}{8}$  inches (4.76 centimeters) at its widest margins. The extrapolated width of the artifact is 2 inches (5.08 centimeters.) The height of the fragment is  $1\frac{5}{16}$  inches (3.33 centimeters.) The lower portion of the breast plate measures  $1\frac{1}{16}$  inch (1.75 centimeters) in height. The vertical portion of the plate measures  $\frac{3}{8}$  inch (0.95

## APPENDIX C (CONTINUED)

centimeter) in height. The 'sloping' portion of the plate measures  $\frac{1}{4}$  inch (0.64 centimeters.) The thickness of the fragment at the broken end varies from  $\frac{1}{8}$  inch (0.32 centimeter) to  $\frac{1}{16}$  inch (0.16 centimeter), while the thickness of the intact bottom of the plate varies from  $\frac{1}{6}$  inch (0.16 centimeter) to  $\frac{1}{32}$  inch (0.08 centimeter.) There are two holes pressed through the ceramic near the lower margin of the plate. These holes measure  $\frac{7}{32}$  inch (0.55 centimeter) from the bottom margin of the plate. The distance from the center of the right hole (looking from the front) to the lower right side of the plate is  $\frac{3}{16}$  inch (0.48 centimeter.) The distance from the center of the left hole to the lower left side of the plate is  $\frac{1}{16}$  inch (0.16 centimeter.) The right hole measures  $\frac{3}{32}$  inch (0.24 centimeter) in diameter. The right hole measures  $\frac{1}{8}$  inch (0.32 centimeter) in diameter. Viewing the inside of the plate reveals a rough surface texture. Additional inspection of the inside of the plate reveals a ridge of ceramic material rising from the right hole (viewed from the front) in a circular fashion. This ridge appears to be the result of pressing an instrument through the ceramic material to create the hole, with the extra ridge being a remnant of the process. The instrument was inserted from the outer portion of the artifact, with the ridge present on the inside. This likely occurred while the material was not yet set, but still pliable enough to have produced the resultant ridge. The difficulty in analyzing this artifact arises when considering the process necessary to produce the 'sew holes'. Two possibilities exist here. One possibility is that the object was removed from the mold while the material was still pliable, and an instrument was inserted into the artifact. The second possibility is that the object was nearly fully set, and a heated

## APPENDIX C (CONTINUED)

instrument was then inserted. The unevenness of the inner surface of the plate, the differing thickness throughout the artifact, the differences in diameter between the two 'sew' holes, and the ridge of extra ceramic appear to indicate that the plate was press molded. Press molding was employed until the turn of the century. As stated earlier, the best last date of manufacturing for the press mold process dates from 1870 to 1890. There is a faint mold line present on the right shoulder (viewed from the front) running from the neck area down to the arm area. This may be indicative of either a 2- or 3-piece mold. Without the back portion of the complete artifact, it is not possible to state with certainty which type of mold was employed for this artifact. There are no maker's marks or trademarks visible on the artifact, therefore dating of the artifact through the use of these marks is not possible. The manufacturing process for this artifact can be tentatively dated to pre-1890.

## APPENDIX C (CONTINUED)

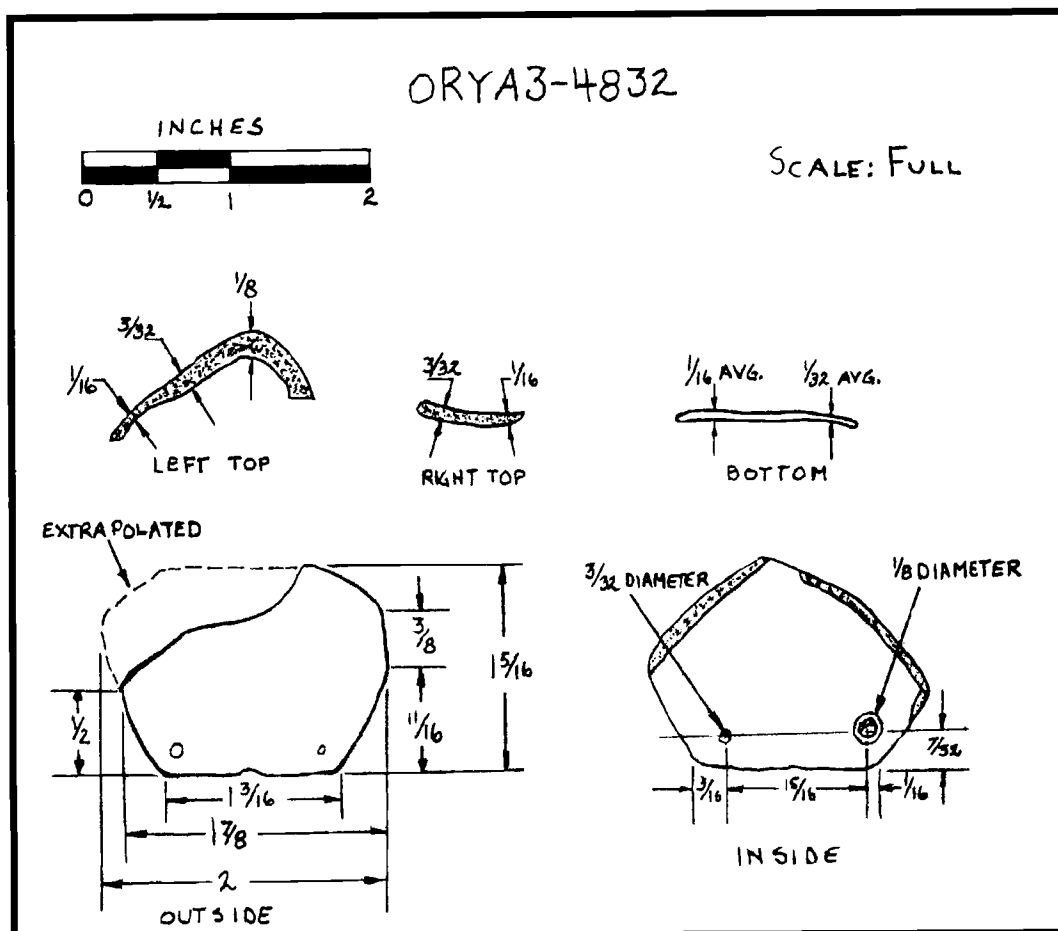


Figure C.4 ORYA3-4832 Illustration

ORYA3-5541

This artifact is the fragmentary upper-body part of a doll. Figure C.5 illustrates the artifact. The material is white clay ceramic, with a clear glaze. This doll artifact can be placed in the 'china' category. It measures  $\frac{7}{8}$  inch (2.22 centimeters) at its widest point. It measures  $\frac{5}{8}$  inch (1.59 centimeters) at its narrowest point. This narrowest bottom width is situated on a portion of the artifact that is not broken. The height of the artifact is  $\frac{5}{8}$  inch (1.59 centimeters) measured from the higher broken

## APPENDIX C (CONTINUED)

end. The smaller height of the artifact is  $\frac{7}{16}$  inch (1.11 centimeters), measured from the lower unbroken end. This unbroken end, viewed on the left side of the artifact from the outside view, along with the bottom width are part of the original mold, exhibiting no clearly broken edges. These left and bottom sides are the only intact portions of the artifact. There is one 'sew' hole perforated near the bottom of the artifact, measuring  $\frac{7}{32}$  inch (0.55 centimeter) from the bottom edge. It measures  $\frac{1}{16}$  inch (0.16 centimeter) on center from the left edge. The diameter of the hole is  $\frac{1}{16}$  inch (0.16 centimeter.) The thickness of the bottom molded edge of the artifact is  $\frac{1}{16}$  inch average (0.16 centimeter average.) The thickness of the artifact at the top, broken edge varies from  $\frac{1}{8}$  inch (0.32 centimeter) to  $\frac{1}{16}$  inch (0.16 centimeter.) The interior of the piece, like that of ORYA3- 4832, exhibits a raised ridge, indicative of the hole having been pushed through while the material was still semi-pliable. There is no extrapolated complete width or height, as the artifact is too fragmented. However, it appears possible to extrapolate the number of 'sew' holes of the original whole artifact to two. This is done based upon the small size of the artifact, and the fact that no doll breast plates researched exhibited less than two holes. Based upon the varying thickness of the artifact, the raised ridge inside the 'sew' hole, and the roughness of the interior, this artifact exhibits the characteristics of a press mold manufacturing process. There are no discernible mold lines present on the fragment. There are no maker's marks or trademarks visible on the artifact, therefore dating of the artifact through the use of these marks is not possible. The best indicator of date



## APPENDIX C (CONTINUED)

of the artifact must be based on the mold technique. The manufacturing date of this artifact can be tentatively dated to pre-1890.

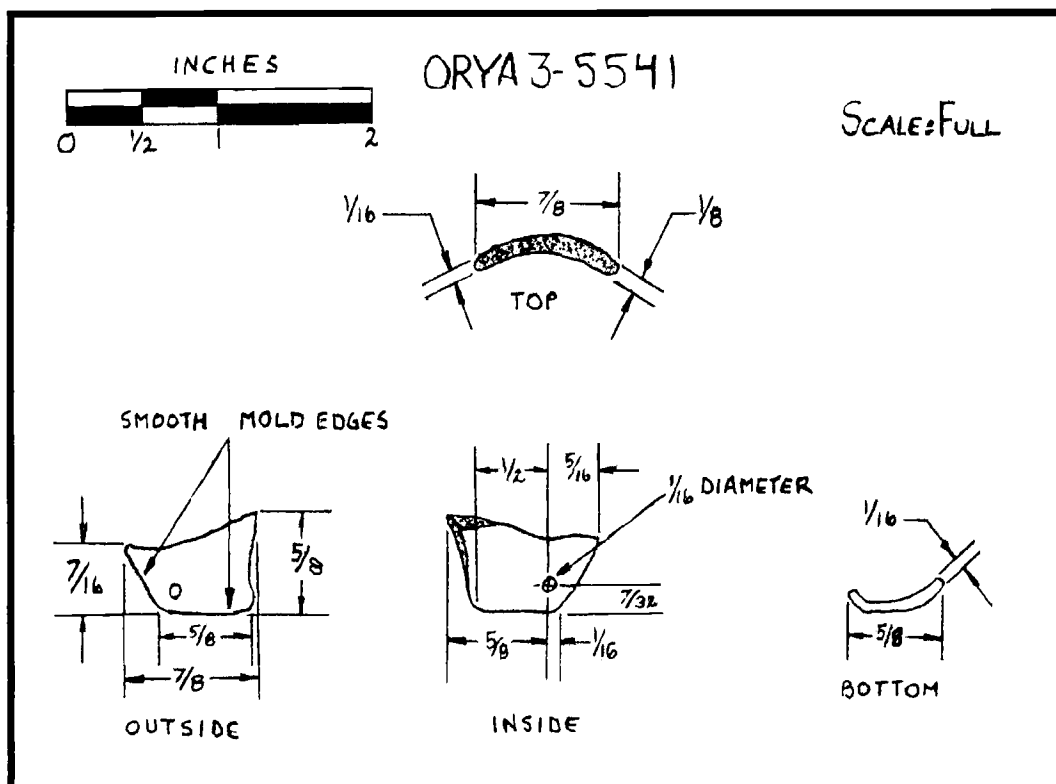


Figure C.5 ORYA3-5541 Illustration

## APPENDIX C (CONTINUED)

ORYA3-2583

This artifact is the fragmentary upper-body part of a doll. Figure C.6 is an illustration of this artifact. The material is white clay ceramic, and the glaze is clear. This artifact can be classified as a 'china' type doll part. The artifact measures  $2 \frac{1}{8}$  inches (5.40 centimeters) at its widest, and  $1 \frac{11}{16}$  inches (4.29 centimeters) at its highest. The bottom edge of the artifact is unbroken and appears to be the original margin of the whole artifact. This edge measures between  $\frac{1}{32}$  inch (0.08 centimeter) and  $\frac{1}{8}$  inch (0.32 centimeter) in thickness. The other two edges of the artifact are broken. The left edge measures  $\frac{1}{8}$  inch (0.32 centimeter) in thickness. The right edge varies in thickness between  $\frac{1}{8}$  inch (0.32 centimeter) and  $\frac{3}{16}$  inch (0.48 centimeter.) Both broken edges exhibit the remnants of old adhesive, indicating that an attempt was made at one time to repair the artifact. There is a 'sew' hole located near the bottom edge of the artifact. Its center is located  $\frac{1}{4}$  inch (0.64 centimeter) from the bottom edge and  $1 \frac{1}{8}$  inches (2.86 centimeters) from the right edge. The right edge measurement is for descriptive purposes only, as sew hole distances from the broken edge cannot provide any diagnostic insights to the manufacturing process. The diameter of the hole is  $\frac{3}{16}$  inch (0.48 centimeter.) Additionally there are partial sew holes located on the margins of the left and right edges. These partial holes suggest that the whole artifact had three holes for sewing on the body fabric. An extrapolated size for the complete breast plate cannot be accomplished due to the fragmentary nature of the artifact. The uneven nature of the thickness of the artifact would seem to indicate that this was a press molded item. There are no mold lines

## APPENDIX C (CONTINUED)

present on the artifact. There are no maker's marks or trademarks visible on the artifact, therefore dating of the artifact through the use of these marks is not possible. The press mold evidence dates the manufacturing date of this artifact to pre-1890.

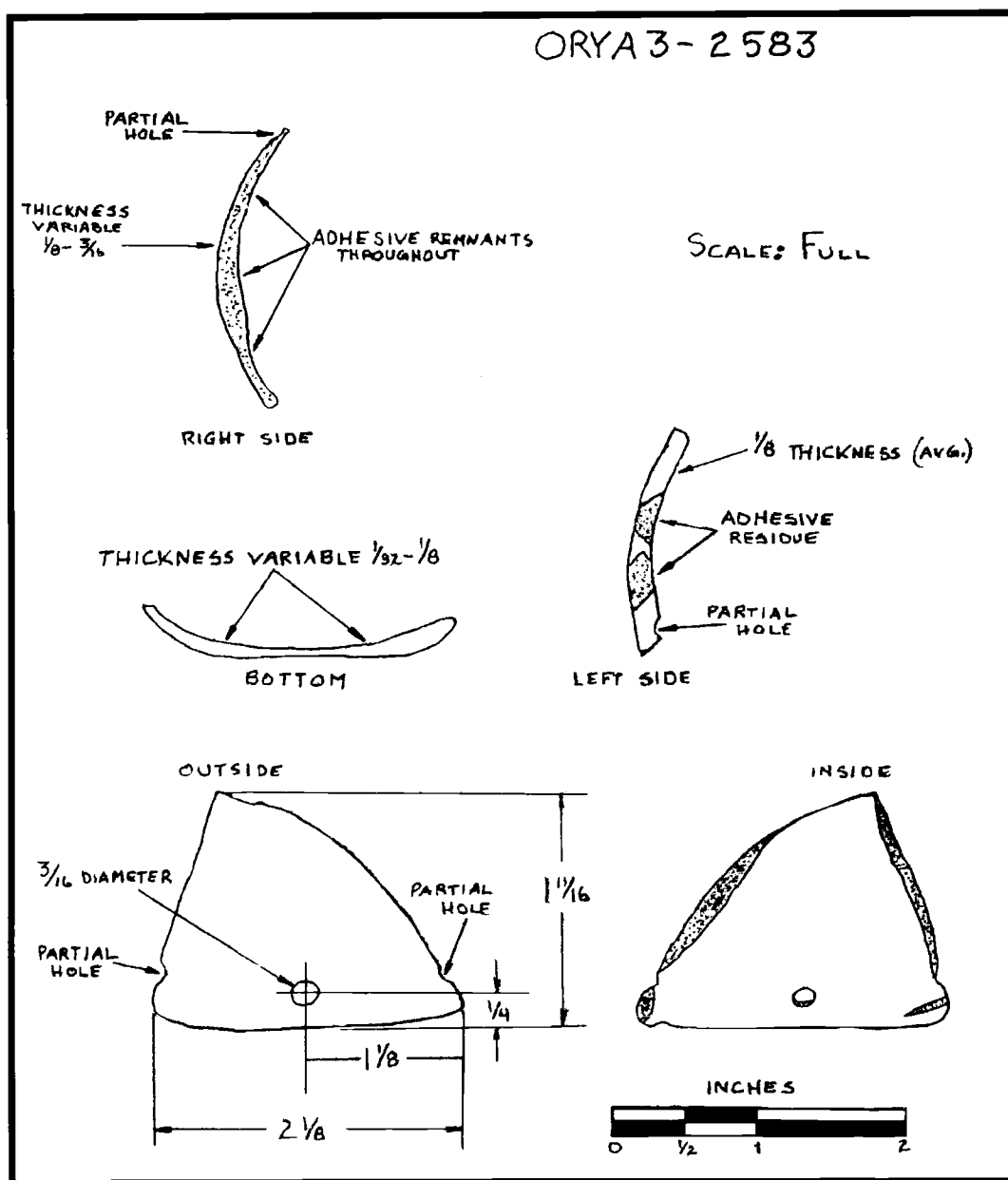


Figure C.6 ORYA3-2583 Illustration

## APPENDIX C (CONTINUED)

ORYA3-6154

This artifact is the fragmentary upper-body part of a doll. Figure C.7 illustrates this artifact. The material is white clay ceramic, with a clear glaze finish. This is a 'china' type doll part. The artifact measures  $1 \frac{7}{16}$  inches (3.65 centimeters) in width. Its height is  $1 \frac{5}{8}$  inches (4.13 centimeters.) The bottom of the artifact has a smooth rounded finish and measures an average of  $\frac{1}{8}$  inch (0.32 centimeter) in thickness. The left and right edges are broken, with an average thickness of  $\frac{1}{8}$  inch (0.32 centimeter.) The broken edges exhibit adhesive remnants, indicating that an attempt to repair the artifact was made at one time. There is a partial 'sew' hole present on the longer of the two broken edges. This hole is extrapolated to measure  $\frac{3}{16}$  inch (0.48 centimeter) in diameter. The center of the hole measures  $\frac{5}{16}$  inch (0.79 centimeter) from the bottom smooth edge. There are no obvious mold lines present on the artifact. There are no maker's marks or trademarks visible on the artifact, therefore dating of the artifact through the use of these marks is not possible. The varying thickness and the uneven interior surface of the artifact indicate this is a press molded doll part. This places the artifact manufacturing date at pre-1890.

## APPENDIX C (CONTINUED)

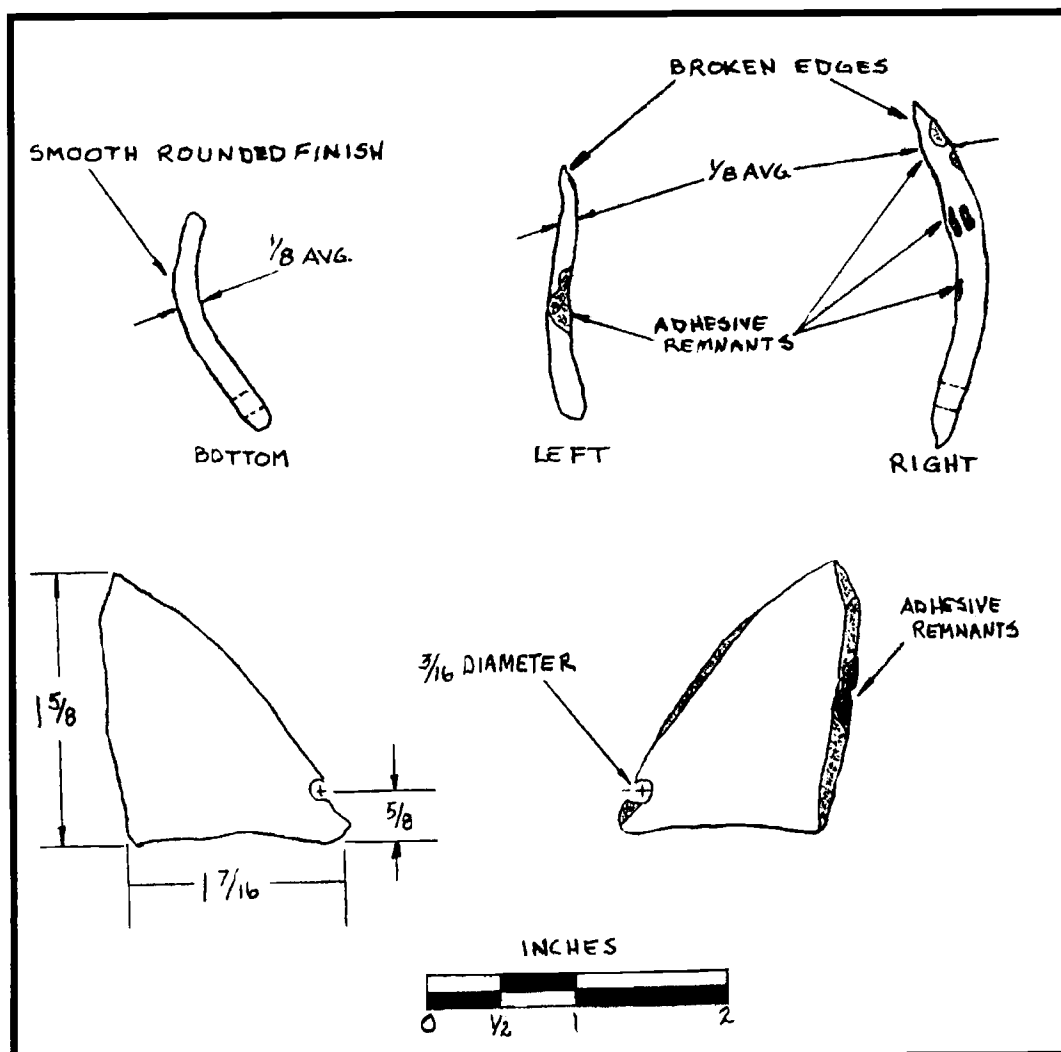


Figure C.7 ORYA3-6154 Illustration

## APPENDIX C (CONTINUED)

ORYA3-2583 and ORYA3-6154

These two doll body part fragments fit together to form a more complete doll upper body part. Figure C.8 illustrates these two artifacts together. The two artifacts, when fitted together, measure  $2 \frac{7}{8}$  inches (7.30 centimeters) in width, with an extrapolated width of  $3 \frac{5}{8}$  inches (9.21 centimeters.) Overall height of the two artifacts is measured as  $2 \frac{1}{4}$  inches (5.72 centimeters.) Distances between the 'sew' holes measure  $\frac{13}{16}$  inch (2.06 centimeters) from the ends (right end extrapolated), 2 inches (5.08 centimeters) from the left hole to the right hole, and 1 inch (2.54 centimeters) from the center hole to the outside holes. These fragments, both exhibiting adhesive remnants, indicate that the original whole doll was broken and an attempt was made to repair it. This suggests that the doll was a valued item, worth the effort to repair. While repaired dolls would not carry value for a collector, a valued plaything for a child would. With both fragments fitted together, it becomes clearer that this doll part is press molded. The mold type places the artifact manufacture date prior to 1890.

## APPENDIX C (CONTINUED)

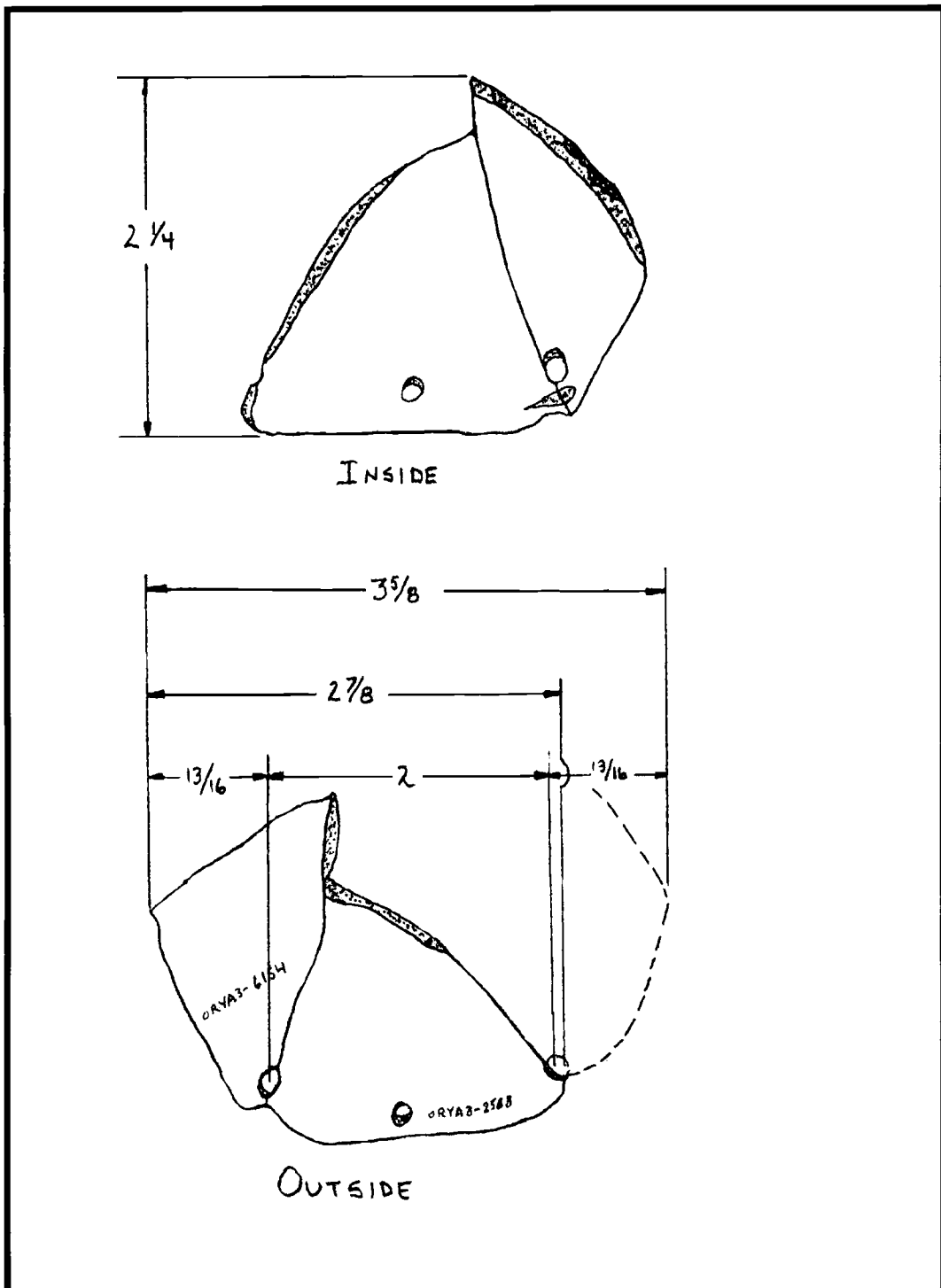


Figure C.8 ORYA3-2583 and ORYA3-6154 Illustration

## APPENDIX C (CONTINUED)

ORYA3-6265

This artifact is a doll's head. Figure C.9 is an illustration of the artifact. The material is composed of white clay ceramic. The glaze is clear, with an underglaze of pink on the cheeks of the face. This is a 'china head' doll. Additional underglaze is found at the eyes, painted black with fine lines to indicate brows, upper lashes, and pupils. There is no eye color painted on the artifact. Overglaze painting of the doll head consists of an orange-red lip and nostril color, and black hair color. The doll's hair is molded with the rest of the head, with shoulder length hair. There is a possible mold line present that separates the hair line from the face and neck. This line is extremely faint and may be seen only through magnification. The head itself is solid molded, so this line may be the result of the interior of the mold and a vestige of the original artisan's carving of the features. The doll head measures  $\frac{3}{4}$  inch (1.91 centimeters) in height. The head portion of the fragment measures  $\frac{5}{8}$  inch (1.59 centimeters) in height. The width of the doll head is  $\frac{11}{16}$  inch (1.75 centimeters) side to side, with the nose of the doll centered at  $\frac{11}{32}$  inch (0.87 centimeter) from either side. The width of the doll head front to back is  $\frac{5}{8}$  inch (1.59 centimeters.) The center of the eyes is  $\frac{5}{16}$  inch (0.79 centimeter) from the top of the head. The nose is  $\frac{3}{8}$  inch (0.95 centimeter) from the top of the head, and the mouth is  $\frac{1}{2}$  inch (1.27 centimeters) from the top of the head. The diameter of the broken portion of the neck is measured at  $\frac{13}{32}$  inch (1.03 centimeters) on average. The distance from the broken portion of the neck to the end of the neck line averages  $\frac{1}{8}$  inch (0.32



## APPENDIX C (CONTINUED)

centimeter.) The diameter of the neck where it meets the head is measured at 3/8 inch (0.95 centimeter), while the diameter of the broken portion of the neck is 7/16 inch (1.11 centimeters.) Broken at the neck area, this head either was attached to a shoulder plate, or was part of a solid, complete doll. There are no specific characteristics of the doll head that might indicate its method of manufacture other than the solid nature of the ceramic. There are no maker's marks or trademarks visible on the artifact, therefore dating of the artifact through the use of these marks is not possible. This solid nature does not, however, indicate whether the part was press or pour molded. The faint mold line cannot be used to determine dating, but may be indicative of method of design. One possibility, based upon the presence of the faint line, is that the artifact was manufactured in a two-part mold manner, with the face and neck portion molded onto the hair. This researcher, however, has not found any literature that has described this particular method of manufacture. One possible clue to the doll's date may be found in the style and shape of the head. When viewed from the front, the top of the doll head exhibits a flattened look. Coleman et al. have identified a "flat-top china head doll" advertised in 1887 and were manufactured in the 1880s (Coleman, 1986:243 #60.) By the 1910s, lady dolls were generally out of fashion, as can be seen in a 1914 Butler Brothers catalog reproduction. In this publication, there are no adult dolls advertised. The best date for this artifact based on style is between 1880 and 1915, based on the above discussion.

## APPENDIX C (CONTINUED)

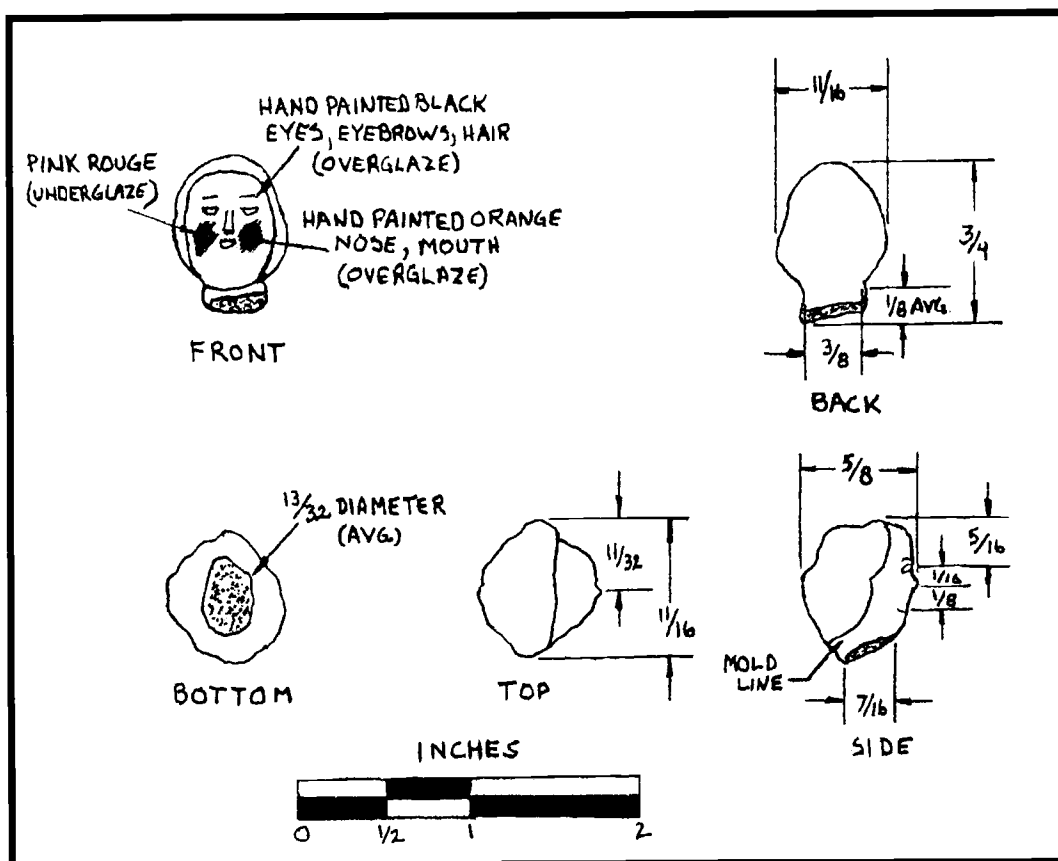


Figure C.9 ORYA3-6265 Illustration

ORYA3-5073

This artifact is a ceramic doll limb fragment. Figure C.10 illustrates the artifact. The material is white clay, with a clear glaze. This is a 'china' type doll artifact. There is a gold overglaze painted on portions of the lower extremity of the limb. The artifact is broken on both the top and bottom portions. This artifact exhibits a front and back aspect, along with side aspects. Front and back, in this instance, are

## APPENDIX C (CONTINUED)

arbitrary terms, as this researcher was unable to find any examples of this particular limb in the literature. The height of the limb is 2 inches (5.08 centimeters.) From the front view, the limb measures  $13/16$  inch (2.06 centimeters) at its widest. From a side view, the limb measures  $11/16$  inch (1.75 centimeters) at its widest. The width at the lower broken extremity of the limb is  $3/8$  inch (0.95 centimeter.) The lower extremity is solid material, and measures  $13/32$  inch (1.03 centimeters) diameter on average. The upper portion of the limb is hollow. The inside diameter of this portion measures  $5/16$  inch (0.79 centimeter) on average. The outer diameter measures  $5/8$  inch (1.59 centimeters) on average. The thickness of the material at this point measures  $1/8$  inch (0.32 centimeter) on average. There are mold lines present along the vertical axes of the limb. These lines are diametrically opposite to each other, visible from the front and back. These mold lines are indicative of a two-part mold. There is a vestige of a 'tie line' evident near the upper portion of the limb. This is consistent with doll limb manufacture, wherein the limbs are tied to cloth bodies utilizing an indented circumference near the end of the limb. There is the numeral '2' stamped into the upper right portion of the limb. This numeral measures  $3/16$  inch (0.48 centimeter) high by  $1/8$  inch (0.32 centimeter) wide. Research of the literature did not reveal any significance to the stamped numeral. The gold overglaze paint on the lower portion of the limb follows a line dictated by the mold pattern. This pattern represents an inverted 'V' when viewed from the front, and levels out approximately  $1/8$  inch (0.32 centimeter) from the broken base. It appears that the gold overglaze was originally painted completely around this molded line, possibly representing the beginning of the

foot or shoe lower portion of the limb. From all indications, this limb appears to be a doll leg. From the bulbous appearance of the body of the limb, this is most likely a lower (below the knee) leg part. The hollow nature of the upper portion of the artifact appears to indicate that this artifact was pour molded, wherein the material was poured into the mold, allowed to cool for some time, and then the excess material poured back out of the mold. This method of manufacture dates from 1870 in Germany, and was adopted by most doll manufacturers by the 1890s. This one artifact, the only ceramic doll part with any stamp or mark, represents 8% of the total of ceramic doll parts. While this is consistent with the Coleman et al. statement, in that 92% of the ORYA3 ceramic doll artifacts are not marked, it is not statistically significant. This lack of significance is due to the fact that the total number of ceramic doll artifacts for ORYA3 is 12. This number is derived from actual doll parts, and does not include ceramic doll-related artifacts (ORYA3-5386 and ORYA3-5283.) A larger sample would be necessary to test the statistical validity of the Coleman et al. statement. There are no other maker's marks or trademarks visible on the artifact, therefore dating of the artifact through the use of these marks is not possible. This artifact dates from 1870 on.

## APPENDIX C (CONTINUED)

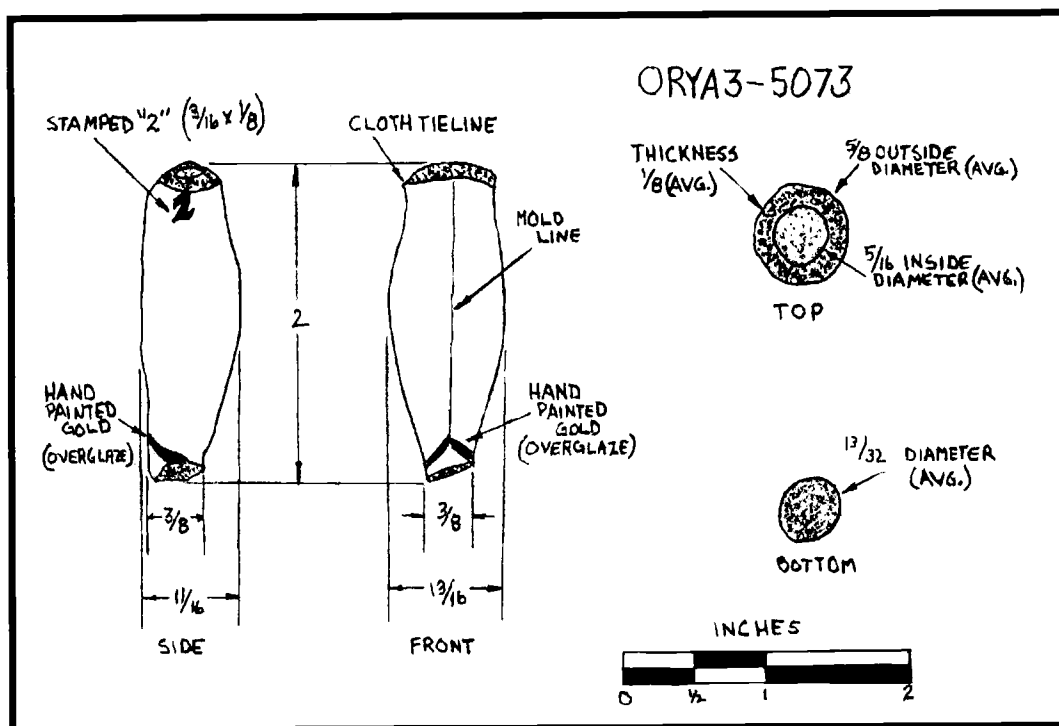


Figure C.10 ORYA3-5073 Illustration

## ORYA3-4982

This artifact is a ceramic doll's arm. Figure C.11 illustrates the artifacts. The material is white clay with a clear overglaze, and can be classified as 'china'. The artifact is clearly a left arm and hand, as the position of the fingers and thumb are indicative of this. The arm measures  $2\frac{3}{8}$  inches (6.03 centimeters) in length. The length of the arm up to the wrist measures  $1\frac{3}{4}$  inch (4.45 centimeters.) The arm measures  $\frac{7}{16}$  inch (1.11 centimeter) at its widest. The diameter of the arm where it attached to the cloth portion of the doll measures  $\frac{3}{8}$  inch (0.95 centimeter.) This 'tie line' begins  $\frac{1}{16}$  inch (0.16 centimeter) from the end of the arm, and is  $\frac{1}{8}$  inch (0.32

## APPENDIX C (CONTINUED)

centimeter) wide. The diameter of the tie line is  $11/32$  inch (0.87 centimeter.) There is a faint mold line visible along the posterior portion of the arm. There are no maker's marks or trademarks visible on the artifact, therefore dating of the artifact through the use of these marks is not possible. The arm appears to be of solid construction, that is, not hollow. Whether the manufacturing process was press or pour mold cannot be determined. Because of the lack of any datable characteristics, this artifact may date to any time within the study period.

## APPENDIX C (CONTINUED)

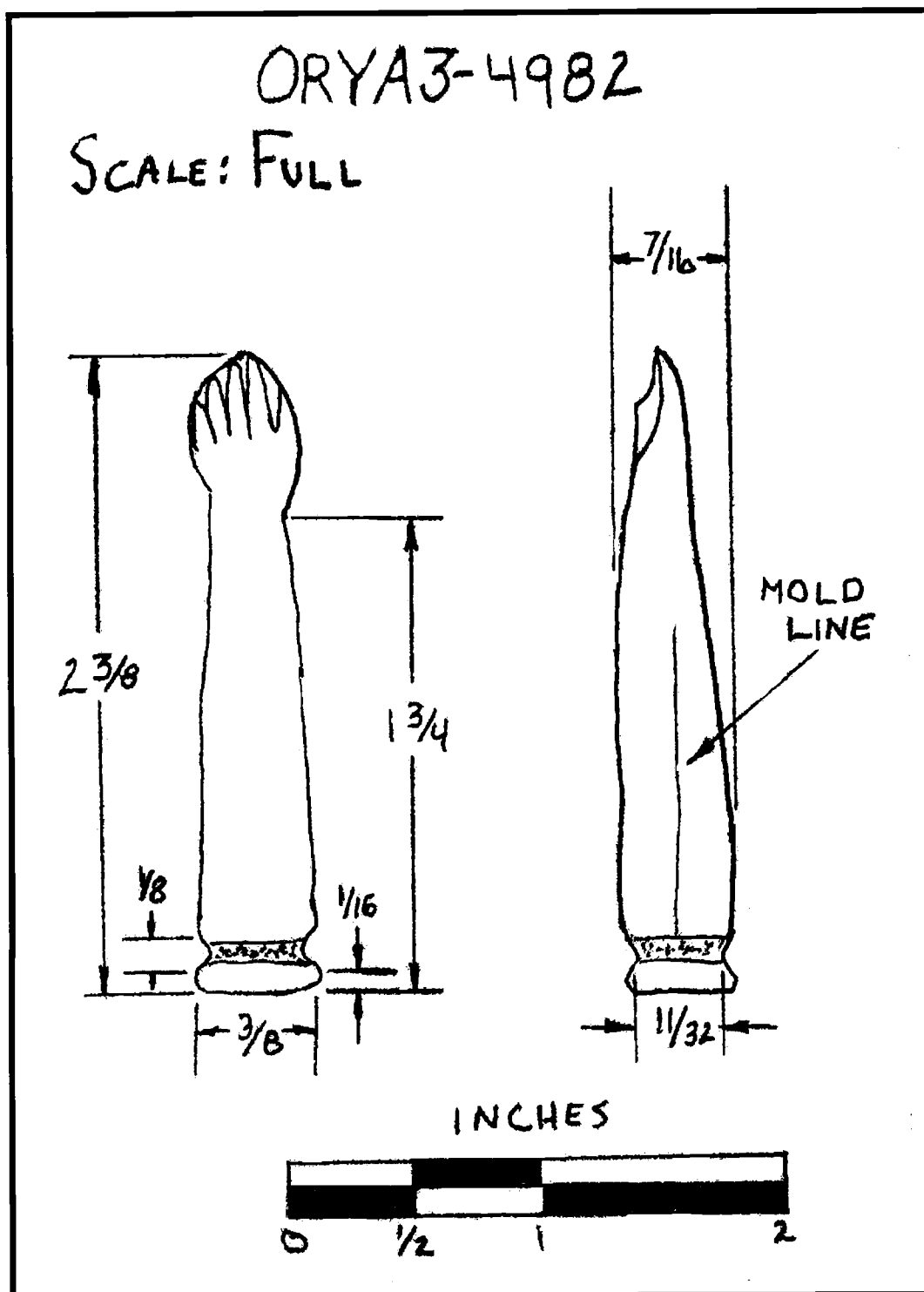


Figure C.11 ORYA3-4982 Illustration

## APPENDIX C (CONTINUED)

ORYA3-4593

This artifact is a ceramic doll's arm fragment. Figure C.12 is an illustration of the artifact. The material is white clay with a clear overglaze, and this artifact can be classified as 'china'. The artifact measures  $1 \frac{7}{16}$  inch (3.65 centimeters) in height. It is similar to artifact number ORYA3-4982, and the original whole arm may be extrapolated to have measured  $2 \frac{3}{8}$  inches (6.03 centimeters) in height. Figure 4.26 is a photographic reproduction of these two artifacts together. The diameter of the arm where it attached to the cloth portion of the doll measures  $\frac{7}{16}$  inch (1.11 centimeter.) This 'tie line' begins  $\frac{1}{16}$  inch (0.16 centimeter) from the end of the arm, and is  $\frac{1}{8}$  inch (0.32 centimeter) wide. The artifact measures  $\frac{7}{16}$  inch (1.11 centimeter) at its widest point. There is a mold line clearly visible when viewing the bottom of the 'tie line', and this mold line extends up along the outer portions of the artifact, terminating at the broken portion of the arm. This mold line is indicative of a two-piece mold. There are no maker's or manufacturer's marks present on the artifact. There is nothing to indicate the mold manufacturing process of this artifact. There are no discernible characteristics about this artifact that allow for accurate dating. This artifact may date to anytime within the study period.



## APPENDIX C (CONTINUED)

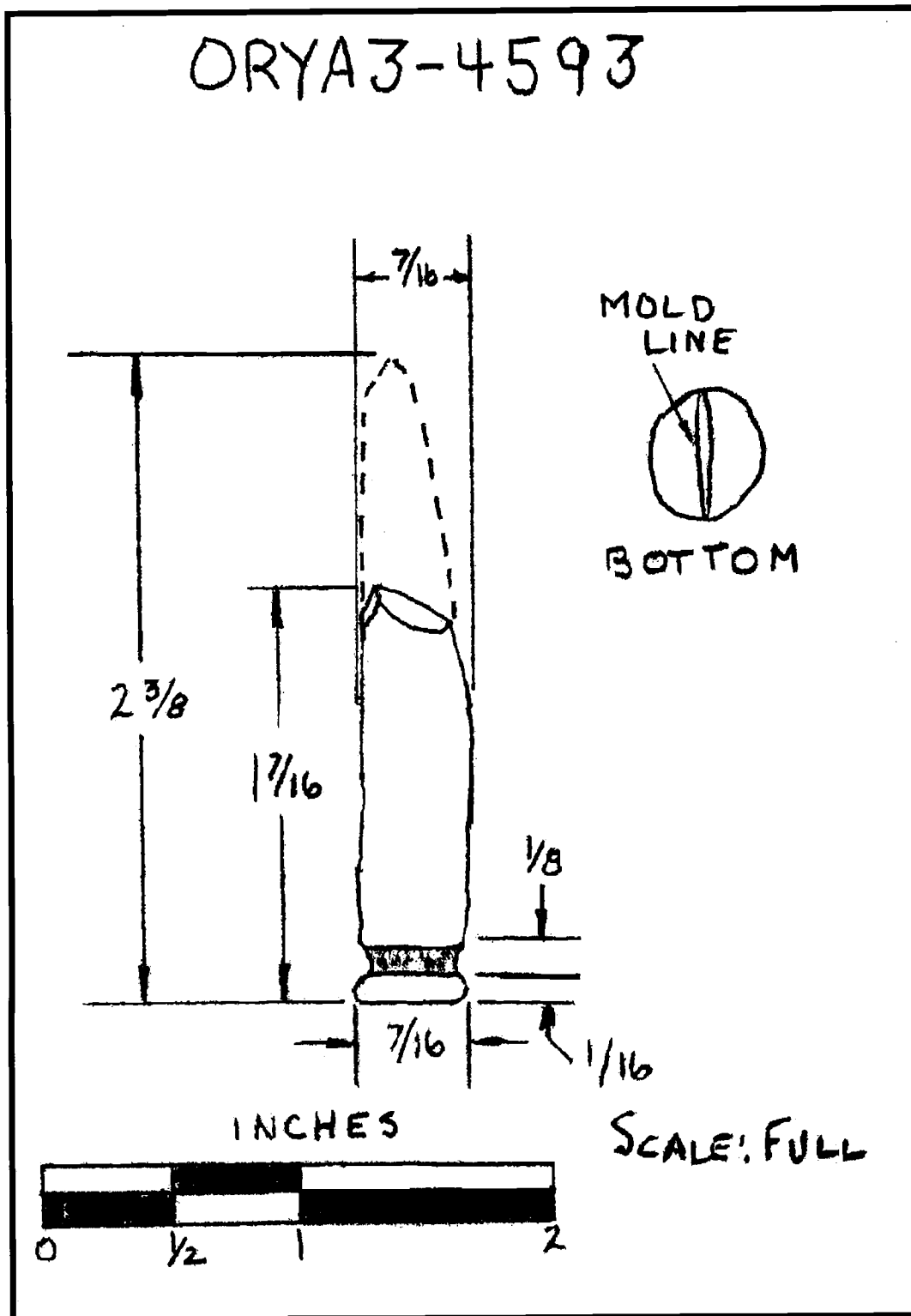


Figure C.12 ORYA3-4593 Illustration

## APPENDIX C (CONTINUED)

ORYA3-2553

This artifact is a doll limb fragment. Figure C.13 is an illustration of the artifact. The material is white clay ceramic with a clear glaze. This artifact can be classified as 'china'. There are two separate overglaze designs present on the artifact. The first is a light green ribbon and bow hand painted near the 'tie line' area of the limb. The second is a gold line hand painted around the circumference of the limb near the broken portion of the limb. The artifact measures  $2 \frac{3}{4}$  inches (6.99 centimeters) in length. Viewed from the front, or the view wherein the ribbon is seen full-on, the artifact measures  $\frac{15}{16}$  inch (2.38 centimeters) in width. Viewed from the side, the artifact measures 1 inch (2.54 centimeters) in width. The diameter of the base of the tie line portion of the limb is  $\frac{7}{8}$  inch (2.22 centimeters.) The distance from the base to the center of the tie line is  $\frac{1}{8}$  inch (0.32 centimeter.) The artifact is hollow, and when viewed from the broken end, the thickness of the material measures between  $\frac{1}{16}$  inch (0.16 centimeter) and  $\frac{1}{8}$  inch (0.32 centimeter.) There is a mold line visible along the long axis of the artifact. This line is present at diametrically opposite sides, indicative of a two piece mold. The broken end of the artifact exhibits residual substance that is likely the remains of an adhesive. This indicates the doll part was valued, as an attempt was made to repair it. Difficulty in identifying this limb as an arm or a leg is mainly due to the shape of the body of the limb. If viewed as an arm, the result, when taken from the tie line outward, seems to suggest a rather bulbous biceps or forearm for the doll. When viewed as a leg, this same bulbous shape indicates a disproportionate thigh. Doll's legs were often cast only from the

## APPENDIX C (CONTINUED)

knee down to the foot. Viewed as a lower leg piece, the bulbous shape could well represent a calf. This researcher thought that perhaps the hand painted ribbon would provide some clue as to what limb this artifact is. When the ribbon is studied, it is apparent that the bow is tied with the two loops nearer the tie line, and the loose, hanging ends of the ribbon point away from the tie line and towards the greater portion of the limb. Because of this, the limb must be imagined as having been tied to the cloth body in such a way that the viewer of the limb would see the ends of the ribbon at the bow as hanging down due to gravity. If the bow is viewed as being placed on an arm, then it would have been seen either at the beginning of the biceps, or the beginning of the forearm. In each instance, the gold hand painted line would be either just below the elbow or near the wrist, respectively. In either instance, the placement of the overglaze hand painting would be more consistent with what was seen as morally acceptable prior to the Victorian era of the nineteenth century, as exposed legs were unseemly for most of the nineteenth century. Examples of dolls from earlier than the 1880s do not exhibit exposed lower legs. Doll limbs with ribbons painted on the upper calf are found in Toys, Games and Dolls: 1860-1930, where a replication of the 1895 Butler Brothers catalog illustrates just such decorated limbs (Schroeder, 1971.) The description that accompanies these illustrations states that "[b]odies are extra plump", which accounts for the bulbous appearance of the calf (Schroeder, 1971:92 #52.) While the hollow nature of the limb suggests a poured mold process, the uneven thickness of the material suggests that this was formed in a pressed mold. The interior of the limb exhibits a roughness not attributable to the poured mold process. It must

## APPENDIX C (CONTINUED)

be recalled that pressed molds were used up until the 1890s. Based upon all the evidence, this limb represents a doll's leg, with only the lower portion of the leg having been cast. The limb was made in a press mold. Because the press mold process was still in existence by the end of the nineteenth century, this artifact likely dates to before 1890. Additionally, the analysis of the style of the hand-painted limb suggests that this artifact dates to no earlier than 1880. This places the manufacture date of the artifact to between 1880 and 1900. There are no discernible maker's or manufacturer's marks present on the artifact that might further identify the dating of the piece.

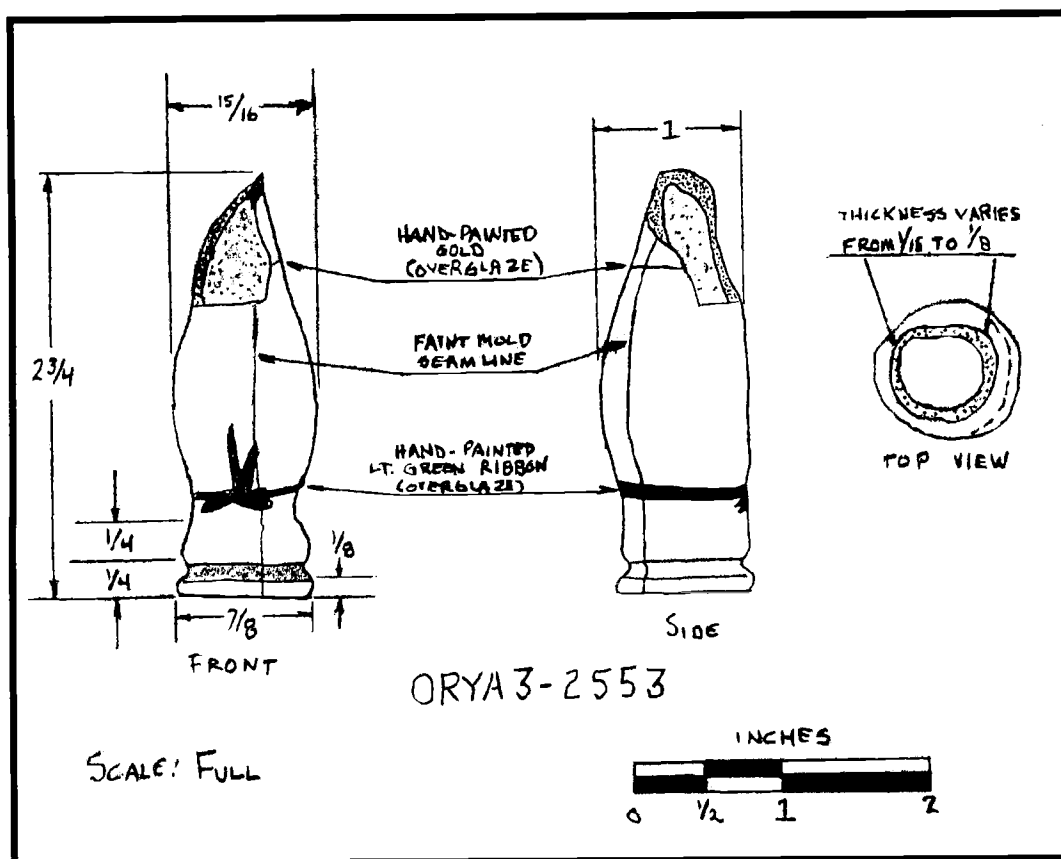


Figure C.13 ORYA3-2553 Illustration

## APPENDIX C (CONTINUED)

ORYA3-6256

This artifact is a near-complete doll's leg and foot. The only blemish on the artifact is on the tie line, where a portion is broken. Figure C.14 illustrates the artifact. The material is white clay ceramic with a clear overglaze, and can be classified as 'china'. The booted portion of the foot is painted in a brown overglaze. This brown overglaze extends to the bottom of the foot, but only enough so that when the limb is viewed in its upright position, the white ceramic is not visible. There is a lighter brown underglaze on the bottom of the foot. Whether this underglaze was originally meant to cover the whole 'shoe' portion or only the bottom is unclear. It may have been that the lighter brown was painted on as an underglaze, but when fired, the coverage was not complete enough and the overglaze paint was added to cover the mistake. The artifact measures 1 1/2 inch (3.81 centimeters) in height. The tie line diameter measures 15/16 inch (2.38 centimeters.) The leg portion of the limb measures 1/2 inch (1.27 centimeter) at its widest point. The ankle measures 5/16 inch (0.79 centimeter), while the bottom of the foot measures 1 1/16 inch (1.75 centimeter.) The painted boot portion begins at 7/16 inch (1.11 centimeter) in height from the heel, and terminates at 9/16 inch (1.43 centimeter) in height from the toe. The foot portion of the boot, when viewed from the bottom, measures 1/4 inch (0.64 centimeter) at its widest and 3/16 inch (0.48 centimeter) at its narrowest. This limb supports one suggestion made in the description of artifact ORYA3-2553, that many ceramic doll's legs were manufactured as 'knee down' limbs and excluded the upper portion of the

## APPENDIX C (CONTINUED)

leg. There are no maker's or manufacturer's marks present on the artifact. There is a faint mold line visible on the artifact, running from the toe along the shin, over the top of the tie line, down the calf, and terminating at the heel. However, this mold line is not visible on the bottom of the foot. What this may indicate in terms of manufacture is uncertain. That the artifact was formed in a two-piece mold appears evident. Perhaps the mold line was polished off the bottom of the foot. When viewing the artifact as a whole, it is impossible to determine whether this was meant to be a doll's left or right limb. It is speculated that manufacturing of limbs of this nature were meant to be generic, thereby requiring that only one mold type be necessary to produce this model of leg. The solid nature of the artifact precludes any determination as to mold process. A review of fashion styles of the nineteenth century reveals that, for children, shoe "[h]eels were flat or low until the 1870s"(Nunn, 1984:164 #63.) If this artifact is a child doll, this might place the boot or shoe prior to this period. If this artifact is an adult doll, a dating assumption cannot be made. Because this artifact exhibits nothing to indicate whether it is an adult or child doll, a firm date of manufacture cannot be ascertained.

## APPENDIX C (CONTINUED)

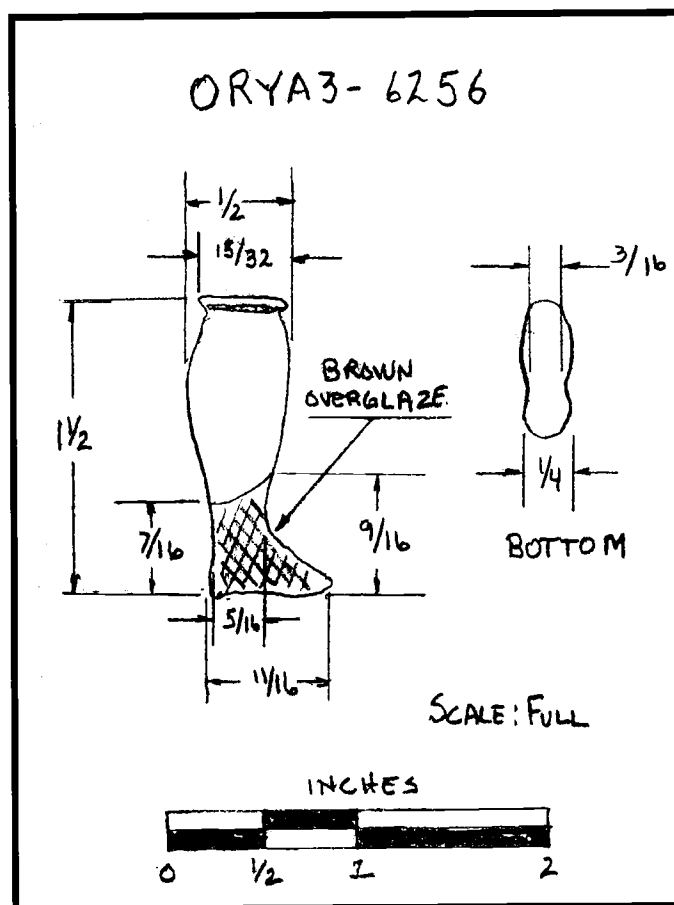


Figure C.14 ORYA3-6256 Illustration

ORYA3-5998

This artifact is a doll's foot or boot fragment. The artifact is broken at about what might be construed as mid-thigh. Figure C.15 is an illustration of the artifact. The material is white clay ceramic. There is no evidence of any glaze, and this artifact can be classified as 'parian'. The artifact measures 1/2 inch (1.27 centimeter) in height. The toe portion of the artifact measures 1/16 inch (0.16 centimeter) from the sole or base. The artifact measures 1/4 inch (0.64 centimeter) at its widest when

## APPENDIX C (CONTINUED)

viewed from the side. When viewed from the front, the artifact width measures  $\frac{3}{16}$  inch (0.48 centimeter) on average. The length of the foot portion of the artifact measures  $\frac{5}{16}$  inch (0.79 centimeter.) There are slight imperfections at the base of the sole on the instep and outstep portions. These imperfections appear to be residuals from the manufacturing process, as they are concurrent with where the mold lines become visible. These mold lines run up the inner and outer portions of the artifact, when viewed from the front or rear. The absence of any glaze, the imperfections in manufacture, and the small size of the artifact indicate that this doll part was likely inexpensive and mass produced for the less affluent consumer. There are no characteristics attributable to the artifact that allow for positive dating, and this artifact may date anytime within the study period.



## APPENDIX C (CONTINUED)

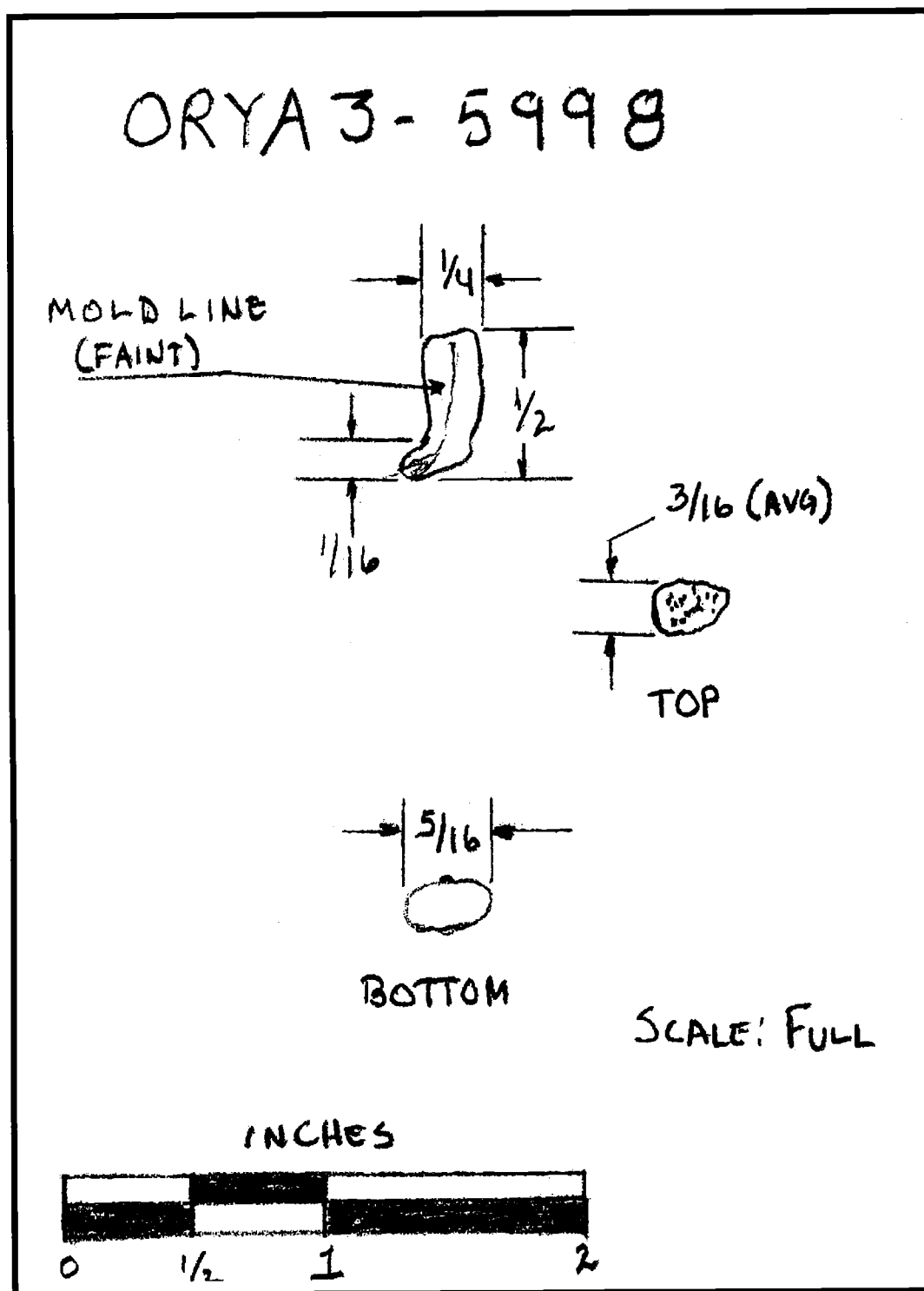


Figure C.15 ORYA3-5998 Illustration

## APPENDIX C (CONTINUED)

ORYA3-5975

This artifact is a doll's leg fragment. The fragment consists of the boot or shoe portion of the leg. Figure C.16 is an illustration of the artifact. The material is white clay ceramic, with a clear glaze, and can be categorized as 'china'. There are seven black overglaze painted dots, evidently meant to represent buttonholes. The original mold for the boot included raised circular points, on which the black paint was applied. There is an underglaze of light brown paint present on the sole of the boot. The artifact fragment measures  $11/16$  inch (1.75 centimeters) in height. The overall width of the artifact measures  $13/16$  inch (2.06 centimeters), while the width of the artifact at the upper, broken portion measures  $9/16$  inch (1.43 centimeters.) The width of the boot when viewed from the bottom is  $5/16$  inch (0.79 centimeter.) The diameter of the upper portion of the boot averages  $17/32$  inch (1.35 centimeters.) The boot exhibits a clear instep and outstep, with the instep visible on the left when viewed from the front. This would indicate that the boot was part of a larger piece meant to represent a left limb. The boot clearly has a raised heel, and this heel is  $1/8$  inch (0.32 centimeter) in height measured from the toe. The button or lace holes on the outstep measure, from bottom to top,  $5/16$  inch (0.79 centimeter) from the toe,  $5/32$  inch (0.40 centimeter) from the first to the second, and  $1/8$  inch (0.32 centimeter) from the second to the third. On the instep, the button or lace holes measure, from bottom to top,  $5/16$  inch (0.79 centimeter) from the toe to the first,  $1/8$  inch (0.32 centimeter) from the first to the second,  $1/8$  inch (0.32 centimeter) from the second to the third, and  $1/8$  inch (0.32 centimeter) from the third to the fourth. It appears that the button

## APPENDIX C (CONTINUED)

or lace holes were meant to extend beyond the fragmented portion of the artifact, although how many total buttons were originally present cannot be determined. In Fashion in Costume: 1200-1980, "[h]eels were added to boots in the late 1840s and the 1850s" with the heels "1-1½ inches high, straight on the inner side and curved in from the back" (Nunn, 1984:160 #63.) By the 1870s and 1880s, the heel height had increased, and was "now curved in the inner side and the back to a small base" (Nunn, 1984:161 #63.) This information places the style of this artifact as beginning by the late 1840s. This places the date range of manufacture for this artifact between 1840 and 1880. This can be further confirmed in that this is an 'adult' doll piece, and adult dolls fell out of popularity after the 1880s. There are no other discernible characteristics regarding mold process that can assist in dating the artifact.

## APPENDIX C (CONTINUED)

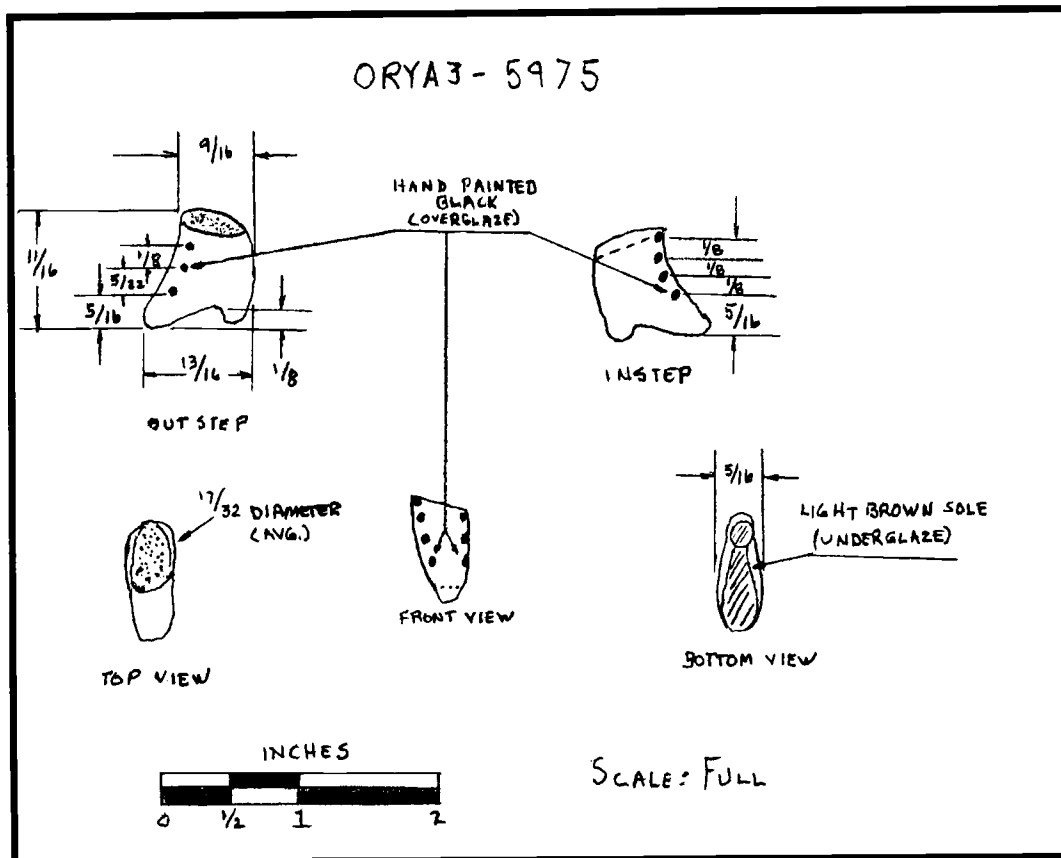


Figure C.16 ORYA3-5975 Illustration

## APPENDIX C (CONTINUED)

### 4.2.4 Other Ceramic

There are two other ceramic artifacts from the collection of ORYA3 that may or may not be classified as children's toys. These artifacts are figurines, and as such may have been knick-knack collectibles for adults. It is equally as likely that children played with these articles. Because it is not possible to determine the use of these artifacts, they are included in this descriptive section, but the researcher has opted not to include drawings or precise measurements with these items.

#### ORYA3-6194

This artifact is a ceramic dog fragment. The dog represented by the ceramic appears to be a breed of collie. The material is white clay ceramic with a clear glaze. Underglaze gold is present on portions of the dog. Overglaze black paint is used to depict the dog's eyes and nose. The artifact is hollow, with an even thickness of material evident where the artifact is broken. There are no maker's or manufacturer's marks, mold lines, or other diagnostic items associated with this artifact.

#### ORYA3-5403

This artifact is a seated figurine of a young girl. The material is white ceramic. There is no glaze present on the artifact. The colors present on the artifact are pink, blue, black, and brown. There are no mold lines, maker's or manufacturer's marks, or

## APPENDIX C (CONTINUED)

other distinguishing characteristics that might prove diagnostic for the purposes of dating or understanding manufacturing methods.

### Marble Artifact Description

#### ORYA3-1205

This artifact is a glass marble. It is broken, and only one half of the marble remains. The marble is semitransparent, and the color is light green. The diameter of the marble is 5/8 inch (1.59 centimeters.) There are no inclusions within the marble or designs on the surface. There are some small dings on the surface of the marble. There are no diagnostic characteristics on or in the marble that allows for dating of the marble. This marble is a machine-made marble, dating anywhere between 1904 and 1993.

#### ORYA3-3711

This artifact is a glass marble. The marble is transparent, and is not colored. The diameter of the marble is 5/8 inch (1.59 centimeters.) There are some bubble inclusions in the marble. The surface of the marble does not exhibit much wear. There are no diagnostic characteristics present on or in the marble for dating purposes. This is a machine-made marble, dating from between 1904 and 1993.

## APPENDIX C (CONTINUED)

ORYA3-3712

This artifact is a glass marble. The marble is transparent. The internal style is known as Japanese 6-vane. The colors in the marble are blue, green, and blue-green. The diameter of the marble is 9/16 inch (1.43 centimeters.) There are some small bubble inclusions in the marble. The surface of the marble is battered. The marble exhibits no other diagnostic characteristics, and is machine-made, dating between 1904 and 1993.

ORYA3-3877

This artifact is a glass marble. The marble is opaque, with a two color swirl pattern. The two colors are dark green and light green. The diameter of the marble is 7/16 inch (1.11 centimeters.) The marble exhibits some surface wear, including two small dings. This artifact exhibits no diagnostic characteristics, is machine-made, and dates from 1904 to 1993.

ORYA3-3919

This artifact is a clay marble. The marble is opaque. The color visible on the marble is brownish-white. The size of the marble, in diameter, is 11/16 inch (1.75 centimeters.) The surface of the marble is well marked. The marble is not perfectly rounded, exhibiting a hand-rolled appearance. The date of this marble is unknown.

## APPENDIX C (CONTINUED)

ORYA3-4564

This artifact is a glass marble. The marble is translucent. The color on the marble's surface is white, the interior color is red, and the pattern is a swirl. The diameter of the marble is 5/8 inch (1.59 centimeters.) This marble is described by Castle and Petersen as an 'oxblood' type marble. There are a few bubble inclusion evident, and there are dings and craters on the marble's surface. There are no other apparent diagnostic characteristics, and this marble is machine-made. This marble dates between 1904 and 1993.

ORYA3-4565

This artifact is a glass marble. The marble is translucent, with two colors visible on the surface. These colors are light green fading into a light cream-white. The diameter of the marble is 5/8 inch (1.59 centimeters.) The surface of the marble exhibits little wear. There are no diagnostic characteristics present on the marble. This marble is machine-made and dates between 1904 and 1993.

ORYA3-4712

This artifact is a glass marble. The marble is opaque. The surface has two colors; white and yellow. The pattern is a swirl. The diameter of the marble is 5/8 inch (1.59 centimeters.) There are few dings on the surface of the marble. There are no diagnostic characteristics related to the marble, and it is a machine-made marble. This marble dates from 1904 to 1993.



## APPENDIX C (CONTINUED)

ORYA3-4774

This artifact is a glass marble. The marble is opaque. The surface color is white, the interior color is red, and the pattern is a swirl. The diameter of the marble is 9/16 inch (1.43 centimeters.) This marble may be an 'oxblood' type marble. There is little evidence of wear on the surface of the marble. There are no diagnostic characteristics, and this marble is machine-made. This artifact dates from 1904 to 1993.

ORYA3-5001

This artifact is a glass marble. The marble is best described as translucent. The color is white opalescent. The diameter of the marble is 9/16 inch (1.43 centimeters.) This marble is described in Block as an "Akro Agate Moonie" (1996:88 #53.) There is little evidence of surface wear. There are no diagnostic characteristics to indicate this is other than a machine-made marble. This marble dates between 1904 and 1993.

ORYA3-5002

This artifact is a glass marble. The marble is opaque. The color is blue. The diameter of the marble is 9/16 inch (1.43 centimeters.) The surface of the marble shows some wear. There are no diagnostic characteristics, and this marble is machine-made. This artifact dates from 1904 to 1993.

## APPENDIX C (CONTINUED)

ORYA3-5272

This artifact is a glass marble. The marble is transparent. The color is clear. The diameter of the marble is 5/8 inch (1.59 centimeters.) There is a large single bubble inclusion evident in the marble. The surface of the marble exhibits some damage. The surface of the marble also has a large crater, measuring 3/16 of an inch (0.48 centimeter.) This crater was originally mistaken by this researcher as a 'pontil' mark, and was misdiagnosed as a 'transitional' marble. This is recorded as a cautionary note. Careful examination must be made of marble surfaces, as surface damage may often be misdiagnosed. This crater was created through a strong impact with another object, possibly another marble. There are no other diagnostic characteristics apparent with this marble. This marble is machine-made and dates between 1904 and 1993.

ORYA3-5297

This artifact is a clay marble. The marble is opaque. The colors visible on the surface are mottled brown and white. The size of the marble, in diameter, is 3/4 inch (1.91 centimeters.) The marble exhibits some battering. The marble is not perfectly rounded, exhibiting a hand-rolled appearance.

ORYA3-5738a

This artifact is a glass marble. The marble is opaque. The color is white. The diameter of the marble is 9/16 inch (1.43 centimeters.) The surface of the marble

## APPENDIX C (CONTINUED)

exhibits moderate wear. This size and color of marble could be use for two purposes. The marble could have been a toy, but it could also have been sold as a voting marble. Black and white opaque marbles were often sold for the purposes of voting. White usually indicated a 'yea' vote, and black indicated a 'nay' vote. The term 'black balled' is taken from this method of voting, wherein it often required only one 'nay' to defeat the question. This marble exhibits no other diagnostics that would indicate other than machine-manufacturing. This artifact dates between 1904 and 1993.

## ORYA3-5738b

This artifact is a glass marble. The marble is opaque, and the color is red. The diameter of the marble is 9/16 inch (1.43 centimeters.) The surface of the marble exhibits little wear. There are no diagnostic characteristics associated with this artifact. This marble is machine-made, and dates from 1904 to 1993. Note: The above two marbles have the same catalog number as they were packaged together. This researcher arbitrarily assigned the alpha character to the catalog number for ease of description.

## ORYA3-5774

This artifact is a glass marble. The marble is transparent. The style of the marble is Japanese 6-vane. The colors are white, red, and yellow. The diameter of the marble is 5/8 inch (1.59 centimeters.) The surface of the marble is cratered and

## APPENDIX C (CONTINUED)

battered. There are no diagnostic characteristics evident on or in the marble, and it is machine-made. This marble dates from 1904 to 1993.

## ORYA3-5777

This marble is transparent glass, with a red and white twisted solid core swirl in the center. It measures 3/4 inch (1.91 centimeters) in diameter. There are some air bubble inclusions in the marble. The surface of the marble is battered, but inspection of the marble using a 10-power magnifying lens reveals what can be interpreted as 'pontil' marks. These marks are somewhat round in nature, and exhibit a smoothness that would be consistent with having been created during the manufacturing process. The smoothness of parts of the 'pontil' marks would be consistent with the hand-made process of cutting the marble ends while the glass was still somewhat molten, thereby flowing into a smooth curve. These curves indent into the surface of the marble, and the center of the 'pontil' rises above the marble's surface. While other surface marks are visible on the marble, these other marks are characterized by jagged breaks, consistent with having been battered by other marbles or through some other process. Another type of battering mark found on this marble can be best described as a 'crater' mark, one created by contact with a harder object. This leaves a rounded crater similar to that seen when a rock or projectile strikes window glass, with lines of percussion radiating outward from the center of the striking point. This battering is indicative of heavy usage. The diameter of the marble is consistent with a 'shooter', further explaining the battered nature of the artifact. An additional feature of this marble that

## APPENDIX C (CONTINUED)

characterizes it as hand-made can be identified from its non-spherical nature. There is a visible flaw in the marble's roundness that would indicate the marble was formed by hand and not by machine. Finally, the red and white interior swirl has been identified as a Solid-Core swirl style of marble. This style is identified in collector's guides as hand-made. The manufacturing date of this marble is between 1850 and 1920.

### ORYA3-5778

This artifact is a glass marble. The marble is opaque. The colors are blue and white, with a swirl pattern. The diameter of the marble is 9/16 inch (1.43 centimeters.) The surface of the marble exhibits little wear. There are no diagnostic characteristics that indicate this marble is other than machine-made. This marble dates between 1904 and 1993.

### ORYA3-5809

This artifact is a glass marble. The marble is opaque. The color, on first inspection, is black. Closer examination of the marble reveals that the color is a deep violet or purple. The diameter of the marble is 1/2 inch (1.27 centimeters.) The surface of the marble exhibits little wear. Further examination of the surface reveals a flaw. This flaw is an indentation and looks somewhat like the glass was folded over in a broad 'v' or 'u' shape, with the fold melted back into the surface of the marble. This appears to be have been formed during the manufacturing process. This flaw could indicate hand manufacturing, using the 'single gather' method, or 'transitional'

## APPENDIX C (CONTINUED)

manufacturing. Another diagnostic characteristic evident on the marble is that the artifact is clearly out-of-round. Fully automated machine-made marbles incorporated a process whereby the marble was fully rounded. The criteria for 'transitional' machine made marbles require the presence of a single 'pontil' mark *and* two colors. While this artifacts exhibits the 'fold pontil' characteristic necessary for a transitional marble, it does not consist of two colors. Because of this, the researcher is forced to conclude that this marble is modern machine-made, and the flaw must have occurred during some failure in the manufacturing process. This marble dates from 1904 to 1993.

## ORYA3-5810

This artifact is a glass marble. The marble is opaque, and the color is black. The diameter of the marble is 9/16 inch (1.49 centimeters.) The surface of the marble exhibits little wear. This marble, like ORYA3-5738a, may be a voting marble and not a toy. There are no diagnostic characteristics evident on the marble to indicate other than that it is a modern machine-made marble. This marble dates from 1904 to 1993.

## ORYA3-5907

This artifact is a glass marble. The marble is semitransparent. The surface of the marble has two colors. There is an orange band of color, and a milky-white color. The diameter of the marble is 9/16 inch (1.43 centimeters.) There are bubble inclusions in the marble. The surface of the marble exhibits some wear. There is a

## APPENDIX C (CONTINUED)

peculiar scar on the surface of this marble. It is circular in nature, exhibits smaller crater-like circles along the edge of the larger circle circumference, and is slightly raised above the marble surface. Figure (make illustration) illustrates this scar. This scar might be characteristic of an injection mold or some other machining process, perhaps similar to the 'Owens' suction scar found on glass containers. This is, however, speculative, as this researcher found nothing to explain this scar in the literature. It seems certain that this is not a transitional pontil mark. It remains for future research to determine what this scar is, and whether or not it can be identified as characteristic to a datable machining process. The style of this marble is unique, and this researcher found nothing like it in the literature. But there are none of the characteristic diagnostics present on or in the marble that would indicate it is other than machine-make. This marble dates from 1904 to 1993.

### ORYA3-5910

This artifact is a glass marble. The marble is transparent. The interior colors of the marble are white and red. The interior of the marble is 6-vane. The diameter of the marble is 5/8 inch (1.59 centimeters.) There are numerous bubble inclusions within the marble. This marble, like ORYA3-5907, exhibits the same surface scar. It is nearly identical in size to 5907. Once again, there is nothing extant in the literature to accurately define the process involved in creating this scar. The rest of the marble's surface exhibits little wear. There are no other diagnostic characteristics that identify this marble. This is a machine-made marble, and dates between 1904 and 1993.

## APPENDIX C (CONTINUED)

ORYA3-5913

This artifact is a clay marble. The marble is opaque. The colors visible on the marble are mottled browns and white. The size of the marble, in diameter, is 3/4 inch (1.91 centimeters.) The marble is not perfectly rounded, exhibiting a hand-rolled appearance. The surface of the marble is well worn.

ORYA3-5988

This artifact is a glass marble. The marble is opaque. The colors present on the marble are yellow and white, and are formed into a swirl pattern. The marble's diameter is 5/8 inch (1.59 centimeters.) The surface of the marble exhibits some wear, including a large broken piece. This broken piece indicates a single traumatic incident. This incident may have been the reason for this marble being discarded. There are no diagnostic characteristics that serve to identify this marble. This is a machine-made marble, dating from 1904 to 1993.

ORYA3-5989

This marble is transparent glass. It has two different color inclusions. The first is a fine thread white colored lattice/swirl running through the central portion of the marble. The second color inclusion consists of three multi-colored bands that swirl nearer the surface of the marble. The principal colors of this inclusion are red, orange, yellow and blue. There are air bubble inclusions within the marble. The marble measures 7/8 inch (2.22 centimeters) in an extrapolated diameter. The extrapolation is



## APPENDIX C (CONTINUED)

necessary because of the badly battered nature of the surface of the marble. This battering has left the surface of the marble without any identifiable manufacturing marks. Because this marble exhibits no visible manufacturing marks, the style of the marble may be used to determine its age. The fine lattice interior of the marble is described by collector's guides as a Latticino type marble. Latticino marbles were hand-made and date between 1850 and 1920. This artifact was manufactured between these dates.

### ORYA3-5990

This artifact is a glass marble. The marble is opaque. There are two colors present on the surface of the marble, organized into a swirl pattern. The colors are blue and white. The diameter of the marble is 5/8 inch (1.59 centimeters.) The marble's surface is very worn. There are no other diagnostic characteristics that positively identify the manufacturing date of this artifact. This is a machine-made marble, and dates to between 1904 and 1993.

### ORYA3-5991

This artifact is a glass marble. The marble is opaque. The colors present on the marble are blue and white, and the pattern is a swirl. The diameter of the marble is 11/16 (1.75 centimeters.) The surface of the marble is well worn. This marble exhibits a scar on its surface. This scar may only be seen through 10-power magnification. This is definitely a scar and not a crater resulting from impact. Again, nothing exists in the literature that explains the presence of this scar, but it is likely related to

## APPENDIX C (CONTINUED)

manufacturing process. This, again, may be similar to the suction scar found on molded glass containers. There are no other diagnostic characteristics that indicate manufacturing process. This marble is machine-made. The marble dates from 1904 to 1993.

## ORYA3-5992

This artifact is a glass marble. The marble is opaque and has a two color surface. The colors are reddish/brown and white, and are in a swirl pattern. The diameter of the marble is 9/16 inch (1.43 centimeters.) The surface of the marble exhibits some wear. There are no diagnostic characteristics that indicate manufacturing method of this marble. This marble is machine-made, and dates from 1904 to 1993.

## ORYA3-6193

This artifact is a glass marble. The marble is opaque. The color of the marble is white. The diameter of the marble is 1/2 inch (1.27 centimeters.) The surface of the marble is slightly worn. This marble, like ORYA3-5738a and ORYA3-5810, may be a voting marble and not a toy. There are no diagnostic characteristics present that indicate manufacturing method. This is a machine-made marble, and dates between 1904 and 1993.

## APPENDIX C (CONTINUED)

ORYA3-6260

This artifact is a clay marble. The marble is opaque. The color of the marble is mottled brown. The surface of the marble exhibits some wear. The size of the marble, in diameter, is 3/4 inch (1.91 centimeters.) The marble is not perfectly rounded, exhibiting a hand-rolled appearance.

ORYA3-6261

This artifact is a glass marble. The marble is opaque. The color of the marble is yellow. The marble's diameter is 9/16 inch (1.43 centimeters.) The surface of the marble is well worn. There are no diagnostic characteristics present that indicate manufacturing method. This is a machine-made marble, and dates between 1904 and 1993.

ORYA3-6262

This artifact is a glass marble. The marble is transparent. The marble pattern is a Japanese 6-vane, with vane colors of yellow, green and white. The diameter of the marble is 5/8 inch (1.59 centimeters.) There are numerous bubble inclusions within the marble. The surface of the marble is slightly worn. Additionally, the marble's surface exhibits a slight flaw. This flaw is a linear indentation in the glass, and was likely created during the manufacturing process. There is nothing in the literature that would indicate that this flaw is characteristic of any specific manufacturing process.

## APPENDIX C (CONTINUED)

There are no other diagnostics present on or in the marble. This is a machine-made marble, and dates from 1904 to 1993.

## ORYA3-6263

This artifact is a glass marble. The marble is opaque. The colors on the marble are blue and white and are in a swirl pattern. The diameter of the marble is 5/8 inch (1.59 centimeters.) The surface of the marble is well worn. There are no diagnostic characteristics that indicate manufacturing method of this marble. This marble is machine-made, and dates from 1904 to 1993.

## ORYA3-6264

This artifact is a glass marble. The marble is opaque. The colors on the marble are yellow and white, arranged into a swirl pattern. The marble's diameter is 9/16 inch (1.43 centimeters.) The surface of the marble exhibits little wear. There are no diagnostic characteristics that indicate manufacturing method of this marble. This marble is machine-made, and dates from 1904 to 1993.

## ORYA3-6820

This artifact is a glass marble. The marble is opaque. The colors on the marble are blue and white, and the pattern is a swirl. The diameter of the marble is 5/8 inch (1.59 centimeters.) The surface of the marble is lightly worn. A very small circular suction scar on the surface of the marble. This scar could be mistaken for an impact

## APPENDIX C (CONTINUED)

crater, but the raised edge of the circle show this to be a scar left from manufacturing processes. There is nothing in the literature that indicates how this scar may have been created. There are no other diagnostic characteristics present on the marble to indicate its manufacturing method. This is a machine-made marble, and dates between 1904 and 1993.

## ORYA3-6821

This artifact is a glass marble. The marble is transparent. This is a Japanese 6-vane marble, with vane colors of blue, red, and yellow. The diameter of the marble is 9/16 inch (1.43 centimeters.) There are a few bubble inclusion in the marble. The surface of the marble exhibits little wear. There are no diagnostic characteristics apparent that indicates manufacturing method. This is a machine-made marble. This marble dates from 1904 to 1993.