BEHAVIORAL VARIABILITY IN MORTUARY DEPOSITION: A MODERN MATERIAL CULTURE STUDY[1]

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This paper examines critically several key assumptions that have guided many archaeological interpretations of prehistoric mortuary assemblages. It is argued that more sophisticated models of mortuary deposition need to be incorporated into research that attempts to reconstruct community structure and other sociological variables from variation in grave assemblages. To illustrate this point, and to begin to build such models, a study of artifacts deposited in mortuary contexts was conducted by the author in a major urban center in Arizona in 1996. Several different behavioral pathways through which objects enter mortuary contexts are identified in this study, and some general material correlates for each are specified. This study also provides a vehicle for exploring preliminarily how, and to what extent, various forms of mortuary depostion are related to the social identities of the deceased. Finally, a synthetic model is developed which seeks to explain variation in mortuary deposition in terms of behavioral interactions between the living, on the one hand, and the deceased and various classes of material culture, on the other. It is hoped that the general models and material correlates developed through this study can be elaborated by prehistorians to bolster inferences drawn from specific mortuary populations and to explore previously-uncharted realms of mortuary behavior in the past.

Keywords: Mortuary archaeology, Anthropology of death & burial, Archaeological method & theory, Behavioral archaeology, Modern material culture studies

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INTRODUCTION

Since the early 1960s, studies of human remains and the artifacts associated with them have played a central role in archaeological reconstructions of past economic systems, social structures, beliefs and ideology, and distributions of social power (Carr 1995). Ethnographers have shown that socio-ideological phenomena can have a significant impact on the form, expense, and elaboration of funerary rituals in many cross-cultural contexts (Huntington and Metcalf 1979). Archaeologists, however, must draw their inferences from an incomplete and often unclear material record of funeral events (O'Shea 1984:23ff; Brown 1995). Ironically, processualist and non-processualist archaeologists alike commonly assume that variability in the form, quantity, and distribution of artifacts is related in a constant fashion to variability in funerary rites and to variability in the social identities of the deceased. Because of the logistical problems associated with conducting extensive ethnoarchaeological research on mortuary deposition, burial theory has neither been subjected to the same critical evaluation, nor profited from the same expansion of middle range research, as have more ethnographically tangible aspects of cultural deposition. As a result, the behaviors that actually create the deposits of artifacts associated with human burials remain largely unexamined, and normative models of mortuary deposition stand in the place of empirically derived middle range principles in most archaeological studies.

A review of the archaeological literature on burial analysis demonstrates that the same implicit model of mortuary deposition inheres in processualist, post-processualist, Marxist, and selectionist research. In short, two fundamental premises about how objects come to be deposited in human burials can be found in most contemporary analyses:

1. Each object in a burial assemblage entered that deposit by the same basic depositional process.

2. Variability in the form, quantity, and distribution of artifacts within a burial population is exclusively a function of variability in the social identities of the deceased.

Inferences of socio-economic and ideological phenomena that are based on grave artifacts are highly contingent upon the validity of this often-implicit model. Data from a study of modern mortuary deposits in a city in southern Arizona, provide little empirical support for this model. This research, based on artifact inventories from 274 modern burials, indicates that (1) all burial assemblages within a cemetery are not always created by the same depositional process; (2) several distinct depositional

processes can create the artifact assemblage found with a single burial; and (3) all forms of mortuary deposition do not communicate information about the social identity of the deceased. An examination of the life histories of objects deposited in burials provides several general models of mortuary deposition. Archaeologists are implored to further develop the material correlates of these models and to use them to partition grave artifacts by depositional processes before drawing further inferences from such assemblages.

THE PREVAILING MODEL OF MORTUARY DEPOSITION

Archaeologists are surprisingly ambivalent about the recognition and analysis of behavioral variability in mortuary deposition. Many acknowledge the fact that there is a great deal of cross-cultural variability in the processes that create grave assemblages (Ucko 1969; Chapman and Randsborg 1981; Carr 1995). When it comes to analysis, however, many archaeologists treat the objects in a given burial assemblage as if each were deposited through the same processes and for the same reasons. This assumption allows the researcher to analyze all artifacts in the sample as if they were equally relevant to the social, economic, or ideological phenomenon in question. As O'Shea (1984:35) has noted, "This principle assumes that only a single set of directives, regardless of their complexity, is operating to produce the observed cumulative sample." The assumption that each object within a given burial sample was deposited through the same behavioral process is hereafter termed an "assumption of depositional equivalence."

A second common assumption in burial analyses is the notion that the artifact assemblage that accompanies each skeleton was created exclusively through a process that selected artifacts for deposition based on their ability to communicate social, economic, or ideological information about the deceased:

> When archaeologists excavate a set of burials they are not merely excavating individuals, but a coherent social personality....(Saxe 1970:4)
>
> Within a mortuary occurrence, each interment represents the systematic application of a series of prescriptive and proscriptive directives relevant to that individual. (O'Shea 1984:35).

The social identity of the deceased, a function of his/her social roles, status, and gender (Binford 1971; Saxe 1971), is typically viewed as the ultimate determinant of variability in the form, quantity, and distribution of grave artifacts, even by those who reject the notion of a one-to-one correlation between social identity and grave inclusions (Hodder

1982:199, 1984; Cannon 1989; McGuire 1992). Models which posit a necessary link between variability in grave artifacts and variability in the social identities of the deceased are hereafter referred to as "assumptions of social identity. "

These two assumptions of mortuary analysis, (1) the assumption of depositional equivalency, and (2) the assumption of social identity, can be traced to theoretical models introduced to Anglo-American mortuary archaeology through the so-called Saxe-Binford paradigm. Although originally associated with processual analyses, these two assumptions remain fundamental premises in post-processualist, Marxist, and selectionist theories of mortuary variability.

THE HISTORY AND DEVELOPMENT OF THE PREVAILING MODEL

The impact of role theory (Goodenough 1965) on the development of the prevailing model of mortuary deposition cannot be overestimated. First introduced to mortuary archaeology by Binford (1964, 1971) and Saxe (1970, 1971), role theory provided a bridge between archaeological variability and past socio-economic structures through the concept of social persona, a composite of those social identities of a person recognized as appropriate for representation at death.

The more social identities an individual held during life, e.g., chief, potter, mother, wife, the more aspects of their overall social persona there were to be represented in death (Binford 1971).

A second aspect of social structure, status rank, was also believed to be a significant determinant of mortuary variability by Binford and Saxe. Binford (1971) hypothesized that, since the disposal of the dead represents a disruption of the normal activities of a community, the higher an individual's social status (as measured by the number of persons holding duty-status obligations to that individual), the greater would be the communal expenditure, in terms of time and resources, on that individual's funeral. An HRAF sample of burial practices among 40 nonstate societies apparently provided empirical support for Binford's (1971) hypotheses concerning the relationships among mortuary variability and both the social roles and rank of the deceased.

This early research on the material correlates of social roles and social rank has greatly determined the way many archaeologists have analyzed grave artifacts in the past three decades. In the United States, "processualist" researchers have typically focused their analyses on one of two dimensions of variability in grave assemblages: (1) The diversity of artifacts "types" found in each grave, and (2) The relative cost or expenditure of energy represented by the assemblage of grave artifacts.

The first aspect of variability, the diversity of artifact types within each grave, is often presumed to reflect variability in the representation of social roles. Analyses which highlight this aspect of variability are based on a model of mortuary deposition in which each "type" of artifact is assumed to function as a "badge of office," i.e., as a nonredundant symbol of one aspect of the deceased's social persona (Howell 1994). The more "types" of objects buried with an individual, the more social roles they are thought to have held in life. Howell (1994), for example, ranked all burials at the Zuni pueblo of Hawikku on a scale of artifact diversity and identified as community leaders those individuals with the most diverse grave assemblages, i.e., those persons with the most inferred social roles. Such a model, in its assumption that all artifacts within a given assemblage were deposited through the same form of mortuary behavior, is based on a premise of depositional equivalency. Moreover, this model also assumes that objects were selected for deposition based solely on their ability to symbolize the social identities of the deceased in a nonredundant fashion.

The second dimension of grave assemblages often measured by archaeologists is the relative expenditure of energy represented by the assemblage (Tainter 1978). The amount of energy expended on a grave is typically linked, through Binford's (1971) correlate, to the number of survivors owing duty-status obligations to the deceased, and is thus seen as a reflection of the deceased's former status within a social hierarchy. While historical archaeologists have been able to measure funeral expenditures with some accuracy (Pearson 1982), including considerations of the expense of pre-burial preparations and grave monuments, prehistoric archaeologists are usually forced to draw inferences of cost exclusively from the artifacts found in a burial (O'Shea 1984:13ff). Cost is typically measured by (1) the sheer quantity of "grave goods" (Binford 1971); (2) the inferred value of the raw material (Chapman and Randsborg 1981); (3) the estimated cost of manufacture (Peebles and Kus 1977); and/or (4) the distance imported artifacts were transported (Larson 1971; McGuire 1992).

Typically, burials within a given study sample are ranked on an ordinal scale according to one or more of these measures of energy expenditure. Analysis of the distribution of cost among graves is thought to provide the researcher with a basis for characterizing the overall socio-economic structure of the society in question (e.g., egalitarian or ranked), and for placing any given individual burial within that social structure (e.g., lower, middle, or upper economic class). Significantly, overall cost for a given grave is typically determined by the sum of the energy expended through the deposition of all the artifacts found in that burial

(e.g., McGuire 1992). This is an assumption of depositional equivalency which further presumes that all objects were deposited at a similar point in their use life (i.e., each is still useable). Moreover, the amount of energy expended on any one grave, when compared to all others in the sample, is thought to provide a measure of the social rank of the individual represented by that grave assemblage (Tainter 1978; O'Shea 1981), an assumption of social identity.

Since the early 1980s, many archaeologists have contested the notion that material variability within burial populations accurately reflects the social and economic conditions of the societies that created those deposits (Carr 1995). Such "post-processualist" approaches, including structuralist and Marxist positions, tend to emphasize the symbolic and ideological factors that shape the selection of artifacts for mortuary deposition. Moreover, mortuary deposition is considered to be an aspect of culture that can be manipulated to conceal or distort the true nature of socio-economic relations within a society (Hodder 1982:201); funeral rituals do not directly reflect the socio-economic status of the deceased unless such a direct representation is part of the ideological strategy pursued by the survivors (McGuire 1992:194).

Despite these divergences from processual mortuary theory, structuralist and Marxist approaches have inherited the same key assumptions about mortuary deposition that characterize the Saxe-Binford paradigm. Hodder's (1982:199) ethnoarchaeological observations of Nuba funeral ritual, for example, clearly demonstrate an assumption of social identity:

> Given this strong sense of purity, death is considered as an impure threat. This general attitude to death... also produces a particular structure to the death ritual itself: the shape of the grave, the breaking of artifacts and vessels, the number and types of artifact placed in and on top of the grave, and the use of ash. The threat of impurity is related to the social position and role of the deceased.... These aspects of social organization... are reflected in death ritual, but only because of and through the particular attitudes to death found in Nuba.

Although mortuary deposition is thought to be filtered through a series of ideological and symbolic considerations, variability in mortuary deposition is ultimately considered to be a function of the social identity of the deceased. This assumption of social identity can also be found in other structural analyses of mortuary deposition, including Hodder's (1994) study of European Neolithic burials.

In a Marxist analysis of prehistoric Hohokam burials, McGuire (1992:179 211) has presented a model of mortuary deposition containing similar assumptions. According to this model (which is based on Yuman ethnographies), material manifestations of inequality among Hohokam

corporate lineages were revealed in funerals through the display of (1) emblems of the social rank of the deceased (such as bone hairpins), and (2) the assembled wealth of the deceased, including contributions from those individuals in the community from whom duty-status obligations were owed to the deceased (ibid.:195 7). This assemblage of objects was then destroyed in the cremation fire as part of an ideological strategy by which the permanence of material inequalities among lineages was denied (ibid.:206).

Although McGuire (1992) identifies two separate ways in which objects can enter burials, (1) as former possessions of the deceased, including badges of office and personal wealth; and (2) as offerings from the community at large, these depositional pathways are homogenized into a single measure of "grave lot value" in the archaeological case study. Each artifact in McGuire's (1992) Hohokam study is treated as if it were deposited through the same depositional process, and each is considered an equivalent unit in the assessment of wealth and status—a clear assumption of depositional equivalence. Furthermore, like Hodder (1982, 1984), McGuire (1992) considers mortuary deposition ultimately, if indirectly, to be linked to the social identity of the deceased. Although both Hodder's and McGuire's work "treat the relationship between social organization and mortuary ritual as an empirical question" (ibid.:194), the assumption that mortuary deposition and social identity are always linked in some fashion remains implicit and unquestioned.

Finally, selectionist approaches to mortuary analysis represent a significant theoretical departure from both processualist and postprocessualist perspectives. Selectionists have been reluctant to infer relationships between the material aspects of mortuary variability and the possible social identities of the deceased, but have instead attempted to situate mortuary deposition within the overall adaptive strategy of a society. Mortuary deposition, especially in its more elaborate forms, is considered "waste behavior," an expenditure of energy that cannot be recovered at a later time (Dunnell 1989). Dunnell (1989), for example, explains the disposal of vast quantities of costly goods in Woodland Period burials as a type of waste behavior selected for in an ecological context that would have favored depressed birth rates. This conclusion is based on the assumptions that all objects in this study entered burial contexts at similar points in their use lives, and that, because of this depositional equivalence, each object can be treated as a measure of energy expenditure without controlling for variability in residual use life (i.e., how "useable" an object was at deposition). Although this selectionist interpretation of mortuary variability is theoretically distinct, it remains firmly based on the same untested assumptions about the

nature of mortuary deposition as do processual and post processual models.

MIDDLE RANGE RESEARCH ON MORTUARY DEPOSITION

A brief review of the theoretical literature on mortuary deposition suggests that a single and biased conception of how objects come to be deposited in human burials has dominated mortuary analysis for the past three decades. In general, researchers tend to assume that (1) each object in a burial assemblage was deposited through the same depositional processes, and (2) the types and quantities of objects found in a grave are always (directly or indirectly) related to the social identity of the individual with whom they were interred.

When compared to the ethnographic literature on funerals and mortuary behavior (e.g., Bushnell 1927; Kroeber 1927; Ucko 1969; Carr 1995), this model seems to obscure much variability observed in real-life mortuary deposition. For example, in Tainter's (1978) study of 93 ranked societies, in only 5% of the societies sampled was variability in grave goods used to symbolize status distinctions. Similarly, Carr (1995), in a recent HRAF study of 31 nonstate societies, found that variability in the form and quantity of grave goods was unrelated to the social identity of the deceased in over one third of the cases examined. Based on ethnographic data, it would appear that objects can enter human burials through many depositional processes are not accounted for by current archaeological models of mortuary deposition. Such processes include the disposal of the possessions of the deceased, the deposition of implements used in the burial process, and the provisioning of the deceased for the afterlife, to name but a few (Carr 1995). Furthermore, the observation that witchcraft activities and ritual disposal can both act as agents of mortuary deposition forces one to question the a priori assumption that variability in grave artifacts is necessarily linked to the variability in the social identities of the deceased (Rattray 1932; Ucko 1969; Merrifield 1987:139,188; Barber 1989:34). Clearly, archaeological methods for analyzing burial assemblages are out of step with ethnographic observations of variability in mortuary behaviors. As Hodder (1982:201) has asked in a similar context, "Why is it that the complexity of the situation has been overlooked?"

The answer to this question lies in the nature of mortuary behavior itself. In the past thirty years, a well-developed body of middle range theory regarding archaeological deposition and the determinants of assemblage composition has emerged through the study of various cultural and non cultural formation processes in ethnoarchaeological settings (Schiffer 1987). Today, archaeologists studying assemblages in

abandoned domestic structures, for example, are armed with a battery of correlates, based on formal, spatial, and quantitative characteristics of artifacts, which allow them to infer how such assemblages were formed (e.g., see Cameron and Tomka 1993).

No such body of theory has ever been developed with regard to the formation of burial assemblages. This theoretical void is largely the result of difficulties inherent in studying mortuary behavior in an ethnoarchaeological context. In most cases, deaths are infrequent relative to the time the ethnoarchaeologist spends in the field, and most ethnographic data on mortuary practices are based on a minuscule sample of actual observations (e.g., David 1992). Furthermore, most ethnographic accounts tend to be based on normative accounts of mortuary practices rather than on direct observations (Chapman and Randsborg 1981), a dubious basis for archaeological theory. Given the problems of sample size and verifiability inherent in ethnographic data on mortuary practices, it is no wonder that a vast amount of ethnographically documented variability has been overlooked by mortuary archaeologists.

The primary challenge for the ethnoarchaeologist interested in documenting sources of variability in mortuary deposition lies in observing a relatively large number of contemporary depositional events in mortuary contexts. Only through such a large sample of observations can the full range of synchronic variability in mortuary deposition be documented for a given society. Documenting the full range of possible behavioral pathways (i.e., sequences of behaviors which culminate in archaeological deposition) that an object can follow into a mortuary deposit is critical, as O'Shea (1984:24) has noted:

> "The recognition that distinct pathways of funerary deposition exist is essential ... since the potential information content of an attribute will be determined by its depositional pathway."

For example, should artifacts that entered a burial through behavioral pathway "A" be analyzed in the same way as those that entered through behavioral pathway "B"? There is no a priori reason to think they should be. Yet, in the absence of real middle range theory, mortuary archaeologists have tended (1) to assume that there is one and only one analytically significant pathway through which an object can enter a burial, or (2) to divide their sample according to ad hoc depositional categories which still exclude many sources of potential variability. O'Shea's (1984:24) categories of "intentional," "coincidental," and "accidental" mortuary deposition, and Peebles's (1971) categories of "local" and "supralocal" symbols, are prime examples of the latter.

How do artifacts get into human graves? Do all grave artifacts carry information about the social identity of the deceased? For too long common sense assumptions have been substituted for empirical answers to these fundamental questions. To attempt to bridge this theoretical gap, a study of mortuary deposition was conducted by the author in a modern-day urban community in southern Arizona. Through this study, artifact inventories from a comparatively large sample (274 graves) of contemporary burials were obtained through direct observation by the author. In this way, a more complete picture of synchronic variability in mortuary deposition can be documented for this modern community. These data are used to test two fundamental assumptions of archaeological burial analyses: (1) that each object within a burial assemblage was deposited through an analogous depositional process, and (2) that all variability in mortuary deposition is necessarily linked to variability in the social identities of the deceased. A general model of mortuary deposition is then proposed to account for the full range of behavioral variability observed in these data and in cross cultural examples.

AN MODERN CASE STUDY ON MORTUARY DEPOSITION

Since the excavation of a large number of modern burials was both economically unfeasible and socially unacceptable, an alternative strategy for directly observing the types of artifacts placed in modern human burials had to be devised. As a mortuary archaeologist faced with similar economic and social constraints regarding the excavation of prehistoric burials, one often wishes for the ability to see what's in a burial without actually having to dig it. In the present study, the ability to see into burials was actually made possible by a unique form of interment at a burial facility that will be referred to herein as the "Mausoleum of Rest."

The Mausoleum of Rest (MOR) is located within a major urban cemetery in southern Arizona. Like most mausoleums, the MOR is designed primarily to house above-ground human interments. An additional feature of the MOR, however, is the large collection of urn cremations housed in wood and glass cases which line the walls of the mausoleum. Significantly, many of the cases with urn "burials" also contain substantial accumulations of artifacts, ranging from photographs of the deceased to religious objects, poker chips, military decorations, holiday greeting cards, food, and, in general, a good deal of seemingly-random material culture.

While these deposits are clearly not perfect analogs for the assemblages of artifacts found in association with human burials, they do

share one important characteristic with their prehistoric counterparts: final deposition in association with human remains. Many of the same processes that caused objects to be deposited in more traditional burial contexts should also be operative in the formation of these modern collections. If so, the MOR database provides a unique opportunity to examine the range of synchronic processes which can lead objects to deposition in a mortuary context. Although this unique form of interment surely imposes some constraints on the types of objects selected for deposition, such biases are predictable and are taken into account in the final analysis.

The deposition of urns in the MOR began in the early 1980s. Urn cases most often contain a single urn and occupy a volume of about one cubic foot. Double urn and multiple urn family interments, which occupy larger cases, were also observed. Out of a total of approximately 500 glass cases with urns in the MOR, 274 cases contained one or more portable artifacts in addition to the ubiquitous urn. According to cemetery staff, artifacts are placed in these cases at the time of interment and subsequent additions to, or deletions from, these inventories are very rare (except in the event of multiple sequential interments in a single case, at which times objects are generally added but not deleted). For all intents and purposes, these objects have been permanently removed from systemic context activities and are unlikely to be reclaimed in the foreseeable future.

Each of the 274 cases with one or more portable artifacts was completely inventoried by the author in November, 1996. Inventory procedure was as follows. One observation was recorded for each type of object within an urn case, regardless of how many actual objects of that type were observed. For example, if a particular case contained 5 photographs of the deceased and 1 crucifix, 1 observation of "photograph of deceased" and 1 observation of "crucifix" was recorded. Since the goal of this study was to document the range of objects deposited in mortuary contexts, it was thought that tabulations of each individual object would be superfluous. The term "observations" or "object observations" (e.g., 5 crucifix observations) is hereafter used to denote the number of individual cases in which a given type of object was found, rather than the absolute quantity of that object in the sample.

Table 1 lists all of the types of objects observed in this sample and tabulates the number of observations for each. The percentage of cases ("graves") in which a given object type was observed is provided in Table 1, as are the percentages of the total and partial assemblage accounted for by each object type. A total of 857 object observations was made, which constitutes the "total assemblage" for these calculations.

Since urns and photographs together account for almost 63% of the total observations, "partial assemblage" counts are based on a total assemblage of 320 objects (i.e., the total assemblage exclusive of urns and photographs). It should be stressed that the typology by which this assemblage is categorized in Table 1 was devised in the field as a convenient means for recording these data and has no real theoretical basis. For example, the reader will notice that many of the categories are not mutually exclusive (e.g., is a Bible a "book" or "religious paraphernalia" ?). Table 1 is simply meant to serve as a descriptive reference for the discussion that follows. The real importance of these data for the present study lies in the range of variability in artifact types which is documented not in the relative frequencies with which these types were found to occur.

So how do objects come to be deposited in human burials? A brief look at the range of typological variability illustrated in Table 1 suggests that the answer to this question is far more complex than most mortuary archaeologists would like to admit. Typologically, there seems to be no really strong patterns in the data, except perhaps that urns and photographs are fairly common, followed by religious paraphernalia, personal ornaments, leisure-related personal gear, and miscellaneous secular ceramic statuettes (mostly cartoon cherubs). In this form, these data reveal very little about the processes that cause artifacts to be deposited in human burials. Two additional aspects of these data need to be examined to answer the question posed above. These aspects are (1) the life history of each object, and (2) the function of each object specifically within a mortuary context.

OBJECT LIFE HISTORIES

The life history of an object is the sequence of human activities that lead an object from its initial manufacture, through various stages of use, re-use, and repair, to final discard and deposition in the archaeological record (Schiffer 1987:13 15; Walker 1995; Walker and LaMotta 1995). Typological variability within an assemblage of artifacts may obscure important similarities in how those objects were made, used, and discarded. An attempt was made to look past the typological variability in the MOR sample and to highlight broad similarities and differences in the life histories of these objects.

The most broad life history distinction among objects in the MOR sample relates to their use history: Some objects were clearly used by the deceased during his/her life, while others were not. For example, some objects in an assemblage could be seen in photographs of the deceased which were also placed in the urn case. These objects were usually items

of clothing, jewelry, or other miscellaneous "personal gear," such as pipes. Badges of office and military decorations were also among these objects. In some instances, objects showed clear evidence of use wear, but their use could not be directly associated with the deceased. Some of these objects may have been used by the deceased, but the present data do not permit such an inference. Other objects, however, were clearly never used by the deceased during his/her life. Urns, observed in 100% of the cases, provide the best example of this type of artifact. Additionally, it is clear that plaques with prayers for the deceased, food items, toys still in their packages, and post-mortem letters and cards were never actually used by the deceased in life. These two types of objects-those used by the deceased in life, and those not used by the deceased-represent two distinct pathways an object can follow to mortuary deposition. Significantly, the assemblages found in many cases contained both types of objects and were thus formed by at least two types of behavioral deposition. This observation may seem insignificant, but its implications for mortuary analysis are not. It is likely that there are different reasons for these two very different types of objects to be placed in human burials. These two broad distinctions can be shown to further cross cut other categories of objects within the MOR sample.

Another observation on the life histories of objects in the MOR sample is that many objects inferred to have been used by the deceased in life were used in life crisis or initiation rituals. Obvious examples include wedding rings, a Jewish prayer shawl, and various ritual paraphernalia associated with fraternal orders such as the Masons and Shriners. Less obvious examples include photographs of weddings and graduations, military dog tags, and emblems of military or civilian rank.

Other objects were clearly gifts given at certain holiday exchanges, such as birthdays or Christmas. This was obvious in some instances, e.g., objects emblazoned with "Happy Birthday" or holiday cards which pre-date the death of the deceased. Many other objects found in the cases were also likely to have been obtained by the deceased in holiday exchanges, although the present data do not permit such an inference. Interestingly, many photographs showed the deceased involved in artifact exchanges, for example opening Christmas gifts. A different, but related, class of objects includes "gifts" exchanged with the deceased after death, such as holiday greeting cards (whose inscriptions clearly indicated that the recipient was no longer among the living) and "Happy Birthday" balloons attached to the outside of urn cases. While objects in the former class of exchanged items were used by the deceased in life, those from latter group clearly were not. Although both types of objects are related to material exchanges with the deceased, the analyst cannot

assume that both types of objects were deposited for the same reason because of the difference in their life histories.

Another major category of objects, also defined by a common life history, includes tools used by the deceased in their various professions and/or leisure activities. A doctor's stethoscope, a pharmacist's mortar and pestle, a teacher's bell, and a baseball uniform are but a few examples. Another class of objects seemed to be related to the profession of the deceased, but these items do not appear to have been used by the deceased in life. These included toy cars, a miniature comb and scissors in a barber's grave, and a toy crescent wrench. Again, although both classes of objects are typologically similar, because of the differences in their respective life histories it would be imprudent to assume that both types were deposited for the same reasons.

Artifacts used as part of Judeo-Christian religious activities were also commonly observed in the burials. Again, some showed obvious signs of usewear while others were apparently never used by the deceased. Statues and icons with prayers for the deceased were clearly among the latter group of objects.

Finally, a residual class of apparently random objects was observed in many urn cases. These objects included pens, old coins, prehistoric potsherds, rocks, playing cards, poker chips, golf balls, military decorations (with a child), a diary, etc. While inferences regarding the life histories of these objects are tenuous at best, it would appear that many fall under the category of "collectibles." Many also show extensive evidence of use wear. These items all appear to be artifacts which were heavily used and curated for long periods of time by the deceased. While many of the other types of objects discussed so far were also obviously curated, this characteristic alone appears to unite this sub-assemblage of "miscellany," suggesting that it must be considered analytically distinct from the other classes of grave artifacts.

This brief overview of variability in the life histories of objects found in the MOR burial assemblages provides important observations on the nature of mortuary deposition. Clearly, there are many different types of object life histories represented in this assemblage. Objects are deposited in graves through a wide range of depositional processes and, probably, for a wide variety of reasons. Moreover, any one grave assemblage may contain artifacts that followed very different behavioral pathways to their final deposition. Most of the individual urn case assemblages contained objects representing at least two different life histories, and were thus formed through at least two distinct depositional processes.

At this point, several questions still remain unanswered. Why is there such a great degree of variability in the processes that create burial assemblages? How is variability in the life histories of burial objects related to the processes that selected those objects for deposition? Is all mortuary deposition linked to the social identity of the deceased? To provide a preliminary answer to these questions, a synthetic model of mortuary deposition is constructed to account for the wide range of behavioral variability apparent in the MOR sample and in cross-cultural examples.

A Synthetic Behavioral Model of Mortuary Deposition

In 1907, the French sociologist Robert Hertz published a threepart model that to sought to explain variability in mortuary ritual in terms of relationships among (1) the community of the living, (2) the corpse of the deceased, and (3) the community of the dead. Because of its belief-based understanding of mortuary variability, the so called "Hertz Hypothesis" has been labeled "mentalistic" and generally ignored by American mortuary archaeologists (Huntington and Metcalf 1979; Carr 1995; see also David 1992). Be this as it may, the Hertz Hypothesis (when given a whitewash of appropriate behavioralist jargon) provides some useful insights into the causes of behavioral variability in mortuary deposition.

Hertz (1907) proposed that funeral rituals could be understood as rites of passage (sensu Van Gennep 1909) through which the corpse of the deceased was removed from the community of the living and initiated into the community of the dead. The cessation of social interaction, through death, marked the initial departure of the individual from the community of the living and his/her entry into a liminal state, "betwixt and between" life and death (David 1992). Formal variability in mortuary rites, whose function was to transfer the individual from the liminal state into the community of the dead, could be understood in terms of the living community's collective understandings of the social identity of the deceased, the nature of the corpse, and the nature of the deceased's form in the community of the dead (Figure 1). Hertz' (1907) theories about these relationships are not examined here since they do not pertain directly to mortuary deposition per se. This triangle of relationships does provide a useful framework for formulating hypotheses about variability in the "functions" of mortuary artifacts and in the reasons behind their deposition, however. In Figure 2, some terminology familiar to most archaeologists is superimposed on a diagram of the Hertz Hypothesis. In this new model, Hertz' "living community" is equated with Schiffer's (1972) "systemic context," and

Hertz's "community of souls" is equated with the concept of "archaeological context" (Schiffer 1972). The resulting model is a more materialist version of the Hertz Hypothesis, and yet one that remains true to Hertz's notion of the funeral as a rite de passage. Relationships among the living community (systemic context), the corpse, and the community of the dead (archaeological context) are labeled (1a), (1b), and (2) in Figure 2, while the corpse itself is labeled (3). Behavioral interactions between the community of the living and the deceased individual can occur while the deceased is in the liminal state [relationships (1a) and (1b)] or after the deceased has been initiated into the community of the dead (i.e., deposited in an archaeological context) [relationship (2)]. It is hypothesized that different forms of material culture are required for these different forms of interaction; if so, these different forms of interaction with the deceased might account for much of the observed variability in mortuary deposition. Additionally, inanimate objects other than a human corpse can occupy the liminal state between systemic and archaeological contexts [relationship (3)], a phenomenon which accounts for an additional component of variability in mortuary deposition. The primary life history distinction drawn in the MOR sample—that between objects used by the deceased in life and objects not used by the deceased—is thought to cross cut these four functional categories. Other life history distinctions drawn in the MOR sample may, in part, determine the particular function assumed by artifacts in a mortuary context. These functional categories are elaborated with examples from the MOR database and from cross cultural studies below (see Table 2).

DISCARD TECHNOLOGIES

As Hertz (1907) noted, the primary function of the funeral is to remove the corpse from the community of the living and to initiate the deceased into the community of the dead. From a behavioral perspective, mortuary practices are procedures for transforming a corpse from archaeological to systemic context (Figures 1 and 2). Certain forms of material culture, hereafter referred to as "discard technologies," are needed to accomplish this transformation. Discard technologies are used by the living to facilitate interaction with the corpse in relationships (1a) and (1b) (Figure 2) as the deceased is removed from its social context and buried.

Discard technologies can take two basic forms: one type facilitates the physical transformation of the corpse to archaeological context, while the other type accomplishes the symbolic transformation of the deceased into the community of the dead. Examples of the former include all technologies used to process, contain, and bury the corpse, such as

morticians, embalmers, cremation pyres, hearses, shovels, gravediggers, coffins, and urns, to name but a few. Examples of the latter include all symbolic and physical accoutrements necessary to outfit the deceased for their future activities among the dead; these might include food, tools, wives, slaves, rosary beads, or a coin to pay the ferryman at the River Styx.

While discard technologies, by definition, are used in all forms of active corpse disposal, the range of these objects which will be removed from systemic context and deposited with the corpse is highly variable from society to society. In the MOR assemblage, for example, urns were the sole element of the technological apparatus for processing the corpse which actually entered the mortuary deposit. This procedure can be contrasted with that of the Navajo, who have been reported to destroy and bury all discard technology used in the processing of the corpse, including items used for transportation (horses and ladders), construction of the coffin (hammers and axes), and for burial (shovels) (Ward 1980:28 33). In future research, the social, economic, and ideological factors that determine which components of the processing technology are to be discarded with the corpse need to be studied systematically by mortuary ethnoarchaeologists.

The major life history distinction drawn in the MOR sample between objects used by the deceased in life and objects not used by the deceased clearly cross-cuts the category of discard technology. In the MOR sample, it is apparent that many of the technologies used to physically process the corpse, from the crematory furnace to the urn, are objects which were (probably) never used by the deceased during his/her lifetime. Symbolic discard technologies, such as crucifixes and rosary beads, however, often appeared to be former possessions of the deceased; many of these items showed obvious signs of usewear and/or extensive curation. It is dangerous to overgeneralize this distinction, however, since there are many ethnographic counterexamples. Budge (1893:289), for example, uses the term *simulacrum* to describe miniature models of real life objects made explicitly for deposition in mortuary contexts and which are thought to provide the dead with replicas of tools needed in the afterlife. Egyptian *Ushabti* figurines (model servants) provide a classic example of simulacra. Significantly, in the MOR database, simulacra, or representations of other objects, were found in each of the three functional classes of mortuary artifacts described in this model. These observations of cross-cultural variability in "symbolic" discard technologies underscore the need for ethnoarchaeological research on the material correlates of this form of mortuary deposition.

POST MORTEM EXCHANGES ("OFFERINGS")

It is not uncommon for archaeologists to lump all grave artifacts under the category of "offerings," a practice which potentially conflates many sources of depositional variability. Offerings (sensu stricto) can be defined as objects used in interactions between the living and the deceased after the deceased has been discarded/initiated into the community of the dead (relationship (2) in Figure 2). Offerings are objects left on the grave or dropped into the grave via some form of conduit (e.g., Merrifield 1987:139), and serve two purposes. First, offerings can provision the deceased with items that he/she continually needs in daily activities among the dead. The periodic offering of food or libations in/on graves by ancient North Africans and modern Japanese (Cobb 1996:53) are examples of such behavior. Second, offerings can replicate material exchanges that would have occurred if the deceased were still alive. In the MOR sample, Halloween pumpkins, Thanksgiving and birthday cards, and birthday gifts were observed to be attached to the outside of many of the urn cases. Similar observations were made by the author in at least three other modern urban cemeteries in Arizona. Additionally, letters to the deceased were often attached to the outside of the urn cases.

Apparently, in certain behavioral contexts the living attempt to interact with the deceased as if they were still alive by taking part in a one sided form of "reciprocal" exchange. Such behaviors could explain the many gifts left at the graves of such celebrities as Jim Morrison or Elvis Presley, or the full packs of cigarettes frequently left on the graves of Vietnam veterans (personal observations). Significantly, no "offerings" were observed in the MOR sample which appear to have been used by the deceased in life, and no ethnographic references to such recycling behavior could be found. These objects share the common trait that they have all been deposited in mortuary contexts very early in their use lives, when they are still very "useable," and show little evidence of usewear. While the material correlates of "offerings" must be explored in more detail, this life history distinction may provide prehistorians with one clue for identifying these items.

LIMINAL OBIECTS

Another major class of mortuary deposition can be identified in the MOR sample and in ethnographic accounts. This class includes objects which for one reason or another occupy a "liminal" state between systemic and archaeological context, and which must be transformed to archaeological context in a manner similar to that involved in corpse

disposal. This category includes a range of items whose use is so intimately connected with the life of the deceased that, upon that person's death, these objects have (1) little potential for reuse, and (2) little exchange value. Many of these items will have been highly curated by the deceased and might range from sentimental trinkets with no future use or exchange potential to non-transferrable badges of office or ritual paraphernalia (Ucko1969). Many of the "miscellaneous" items in the MOR sample are likely among this category of liminal artifacts although other less obvious examples might include wedding rings, military dog tags, and other items associated with life crisis rituals experienced by the deceased. Ethnographically, this form of mortuary discard has been reported among the Hopi who place paraphernalia associated with weddings and other rites of passage in burials as a means of discarding those items (Bradfield 1995:40). Although curation and participation in life crisis events appear to be common life history traits among these objects, this characterization needs to be examined in more detail in ethnoarchaeological settings. For example, the social, economic, and ideological factors which cause certain curated or life crisis objects to be deposited in burials, rather than recycled or exchanged, remain unclear at present.

Importantly, another class of "liminal" objects exists which were never used by the deceased. In some social and/or ideological contexts, a human burial—regardless of who is buried there—provides a convenient discard context for certain items of material culture. For example, a Catholic priest in Tucson described the disposal of a collection of worn out ceremonial garb in the grave of another Catholic priest (Walker and LaMotta 1995). Although the deceased had never used those vestments, his open grave provided a convenient means for discarding worn out "sacred" objects (Walker 1995). Witchcraft practices have also been reported as agents of mortuary deposition. Merrifield (1987:139, 190), for example, noted that objects inscribed with curses were frequently deposited into Roman period burials through libation tubes. Similarly, Ucko (1969) has reported that among the Nakanse of Ghana, a person might place some favorite objects into an open grave to prevent his/her own spirit from becoming trapped in the grave. These examples demonstrate that there need not always be a relationship between the form and quantity of objects deposited in a grave and the social identity of the individual with whom they were interred. Furthermore, the notion that all objects found in a grave must have been placed there as part of a funeral ritual is clearly not a valid a priori assumption (Rattray 1932:186)!

THE RELATIONSHIP BETWEEN MORTUARY DEPOSITION AND THE SOCIAL IDENTITY OF THE DECEASED

A synthetic model of mortuary deposition, which proposes three "functional" categories of mortuary artifacts which are cross-cut by at least one major life history variable (items used by the deceased/not used by the deceased), has been outlined above. Conspicuously absent from this model, however, is an hypothetical fourth functional class of mortuary artifact—objects which communicate information about the social identity of the deceased. Based on many ethnographic accounts, it could be argued that mortuary objects which only function to mark the identity of the deceased are rare. Many such objects were found in the MOR sample, however; photographs of the deceased, for example, accounted for 30.7% of the total assemblage and were found in 92% of all urn cases with one or more portable objects. This pattern, however, is likely a bias introduced by the specific circumstances of these interments, i.e., one in which the body has been destroyed by cremation and in which public inspection of grave inclusions is common. In cases where public display is not a factor, the deposition of objects which function exclusively to identify the deceased is probably less common.

Although social "ID cards" are not likely to be found among grave artifacts, the social identity of the deceased can be more passively reflected through the three functional classes of mortuary deposition described above—but perhaps not always in the straightforward manner which archaeologists might expect. Persons with different social roles or statuses may be processed for burial with different discard technologies and outfitted with different accoutrements for the afterlife. Similarly, individuals with different social personae may be outfitted with different types of "offerings" and may take different inventories of "liminal" objects with them to the grave. It is presently unclear, however, if the social, economic, and ideological factors which define social roles and status grades in life impose uniform constraints on the form of mortuary deposition among these three different functional classes of mortuary artifacts. In rural Rumania, for example, material wealth may be correlated with social rank in life, but a grave assemblage comprised of a large number of ceramic vessels is not a marker of high social status: in this case, vessels full of water are used as a discard technology to hasten the decomposition of a suspected vampire (Barber 1988:33). Furthermore, as the examples discussed above illustrate, there are several ethnographically documented forms of mortuary deposition which are completely unrelated to the social identity of the deceased. Clearly, much more ethnographic work needs to be done on the nature of the

relationship between an individual's social persona and variability in the three functional classes of mortuary artifacts discussed above. Forms of mortuary deposition which are unrelated to the social identity of the deceased, such as witchcraft-related deposition, also need to be studied in more detail so that material correlates can be developed to help distinguish these forms of deposition in archaeological cases (see Walker 1995).

CONCLUSION

The research reported herein raises some grave doubts about the validity of the premises on which many current models of mortuary deposition are based. Judging from the Mausoleum of Rest data and cross-cultural examples, a wide variety of behaviors can lead artifacts to deposition in a mortuary context. Moreover, these data indicate that, although there is often a relationship between variability in grave artifacts and variability in the social identities of the deceased, this relationship is not always straightforward. Social roles and statuses may be reflected in a different manner by each of the three functional classes of mortuary artifacts, and all forms of mortuary deposition need not be related to the identity of the deceased. Current archaeological models of mortuary deposition potentially conflate many sources of depositional variability in analysis. Reconstructions of ~~f~~past social, economic, and ideological phenomena based on models that do not attempt to partition behavioral variability in mortuary deposition must be regarded with some skepticism. Furthermore, assumptions of depositional equivalence and social identity must be replaced with valid material correlates derived from focused ethnographic, ethnoarchaeological, and modern material culture research. This analysis has provided a theoretical framework for such studies, and has described some of the observed variability in artifact life histories to aid archaeologists in partitioning variability in mortuary deposits.

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Figure 1: The Hertz Hypothesis (after Hertz 1907; Huntington and Metcalf 1979; David 1992

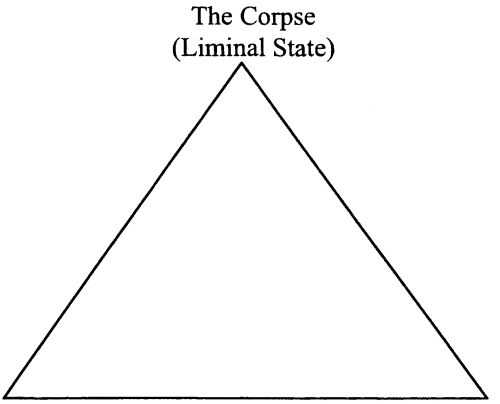

Figure 2: The Modified Hertz Hypothesis

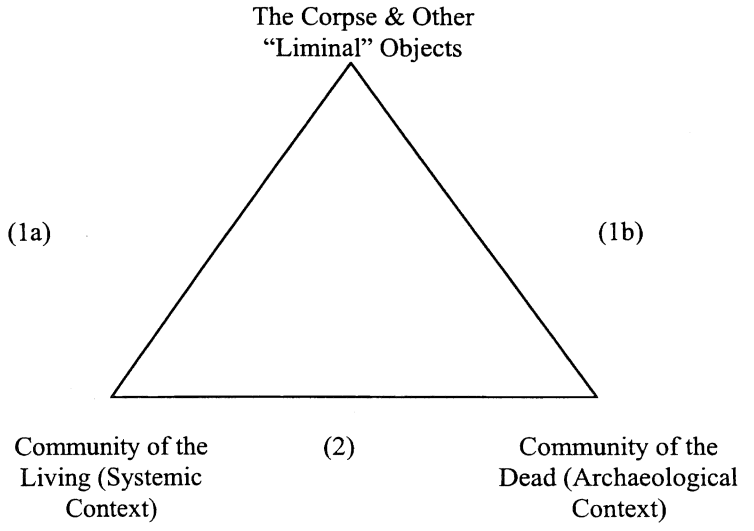

TABLE 1: TYPOLOGICAL INVENTORY OF BURIALS (N = NUMBER OF BURIALS IN WHICH OBJECT TYPE WAS OBSERVED)

Object Type	N	% of Graves	% Total Assmblge.[1]	% Partial Assmblge.[2]
Urn	**274**	**100.0**	**32.0**	**n/a**
Photograph	**263**	**96.0**	**30.7**	**n/a**
of deceased alone	155	56.6		
of deceased and family	97	35.4		
of pet	7	2.6		
of place or object	4	1.5		
Religious Paraphernalia	**59**	**21.5**	**6.9**	**18.4**
crucifix	16	5.8		5.0
rosary beads	25	9.1		7.8
Christian statue	4	1.5		1.3
picture of saint	5	1.8		1.6
Bible	3	1.1		0.9
medallion	5	1.8		1.6
Jewish prayer shawl	1	0.4		0.3
Ritual Paraphernalia, Secular	**5**	**1.8**	**0.6**	**1.6**
Shriner gavel	1	0.4		
Masonic scarf	4	1.5		
Military Paraphernalia	**27**	**9.9**	**3.2**	**1.6**
decorations (medals)	9	3.3		2.8
dog tags	2	0.7		0.6
American flag	11	4.0		3.4
Navy flag	1	0.4		0.3
bullets	4	1.5		1.3
Awards, Secular	**6**	**2.2**	**0.7**	**1.9**
Personal Ornaments	**58**	**21.2**	**6.8**	**18.1**
badge of office	20	7.3		6.3
jewelry	24	8.8		7.5
wedding ring	2	0.7		0.6
clothing	5	1.8		1.6
bow tie	1	0.4		0.3
scarf	1	0.4		0.3
hat	2	0.7		0.6
baseball uniform	1	0.4		0.3
perfume/cologne	2	0.7		0.6
Personal Gear, Work-Related	**12**	**4.4**	**1.4**	**3.8**
Real Gear	5	1.8		1.6
stethoscope	1	0.4		0.3
mortar/pestle	1	0.4		0.3
teacher's bell	1	0.4		0.3
scissors	1	0.4		0.3
padlock	1	0.4		0.3
Simulacra	7	2.6		2.2
vehicle	3	1.1		0.9
tool	4	1.5		1.3

TABLE 1, CONTINUED

Object Type	N	% of Graves	% Total Assmblge.	% Partial Assmblge.
Personal Gear, Leisure	**54**	**19.7**	**6.3**	**16.9**
sports-related	8	2.9		2.5
baseball	2	0.7		0.6
golf ball and tees	3	1.1		0.9
fishing gear	1	0.4		0.3
football insignia	2	0.7		0.6
gambling-related	9	3.3		2.8
playing cards	4	1.5		1.3
casino token	2	0.7		0.6
casino ID card	1	0.4		0.3
dice	1	0.4		0.3
$2.00 bill	1	0.4		0.3
toys	16	5.8		5.0
stuffed animals	10	3.6		3.1
musical instrument	1	0.4		0.3
book (secular)	6	2.2		1.9
cross-word book/pen	2	0.7		0.6
diary	1	0.4		0.3
jewelry box	2	0.7		0.6
pipe	2	0.7		0.6
ID card	1	0.4		0.3
key chain	1	0.4		0.3
miscellaneous collectibles	8	2.9		2.5
Ethnic Items (secular only)	**7**	**2.6**	**0.8**	**2.2**
Irish clover	4	1.5		1.3
Flag	3	1.1		0.9
Statues (secular only)	**47**	**17.2**	**5.5**	**14.7**
of pet	8	2.9		2.5
miscellaneous	39	14.2		12.2
Written Documents	**36**	**13.1**	**4.2**	**11.3**
message to deceased	17	6.2		5.3
poetry/prayer plaque	16	5.8		5.0
holiday card, ante mortem	3	1.1		0.9
Flowers/Wreaths	**15**	**5.5**	**1.8**	**11.3**
Food	**2**	**0.7**	**0.2**	**0.6**
Holiday Gifts (explicit)	**2**	**0.7**	**0.2**	**0.6**
Concealed/Unknown	**2**	**0.7**	**0.2**	**0.6**
Total Observations	**857**			

[1] Percent of total assemblage (n=857) account for by a particular object type.
[2] Percent of partial assemblage (n=320), i.e., percent of total assemblage exclusive of urns and photographs, accounted for by a particular object type

TABLE 2: DEFINITIONS AND EXAMPLES OF FUNCTIONAL CLASSES OF MORTUARY ARTIFACTS

	Object Life-History	
Functional Class	**Used by Deceased in Life**	**Not Used by Deceased in Life**
Discard Technology Used to transform the corpse from systemic to archaeological context; can be "technological" or "symbolic"	Crucifix Rosary Beads Spouse(s) Slave Tools	Coffin/Urn Shovel Money Simulacra
Exchange/Offerings Post-burial provisions for the deceased and/or post-mortem "reciprocal" exchanges	N/A ?	Food/Libations Holiday Cards Birthday/Christmas Gifts Cigarettes Simulacra
Liminal Objects Objects with no reuse or exchange potential; share similar discard technology with human corpse	Items closely associated with deceased Highly Curated Items Rite of Passage Items Gifts	Witchcraft Items Ritual Objects Pets