Chapter 1

Beliefs about Death, Behaviour, and Mortuary Practices among Hunter-gatherers: a Search for Causal Structure?

Lewis R. Binford

Beliefs, or more inclusively ideology, are not uncommonly referred to as causing, conditioning, or biasing behaviour. The recent history of archaeology is punctuated by controversy regarding the role of beliefs and which ones are 'correct' for our discipline. The past, which is inferred by archaeologists, is also said by some to have been primarily conditioned by the beliefs assumed to have guided the behaviour of the ancients (Hodder 1986, 7). This essay addresses the issue of knowledge priorities as well as cognitive phenomena as conditioners of belief, or at least some beliefs. In turn, the issue of belief or non-belief as cause of behaviour germane to archaeologists is addressed.

Hunter-gatherers and beliefs about death

I wish to share with the reader some exploratory research designed to expose patterning among ethno-graphically documented cases. These are all cases observed in the past by persons present in the society, where either members of the society report what they experienced and/or the external or visiting person may also make observations and conduct interviews with other 'witnesses' to the events and conditions reported.

My research will focus upon the comparative beliefs and behaviours originally described, as outlined above, for hunter-gatherer peoples representing a wide variety of ethnically differentiated socio-cultural systems. I will be operating from the posture that science is a learning strategy. Thus, when conducted systematically, science seeks to transform ignorance into knowledge. One of the basic strategies of science is the comparative study of classes of phenomena. In this case the class being studied comparatively comprises all the documented examples of hunter-gatherers; that is, all those peoples who do not obtain their subsistence from domesticated plants and/or animals. Excluded from this class were cases for which the status of the people as hunter-gatherers was unclear in the literature. At the time the data base was created, claims of hunter-gatherers from New Guinea did not appear to me to be demonstrated; that is, has since changed and future research of this type should include New Guinea cases.

In this research exercise I will suggest that at least some of the assumptions about agents and locations of cause may be researched empirically. This can be achieved by exploring the world of experience for guidance when evaluating arguments advanced regarding the agents and mechanisms of cause. My focus on ideology is consistent with the interests of my friend Colin Renfrew (1994, 9) and this focus supports his view that we need to explore the particular methodological challenges of a cognitive-processual archaeology.

The ideological research probe to be used here is simply a coding of the beliefs documented among the hunter-gatherers regarding the 'naturalness' of the causes of death. Of the 339 hunter-gatherer cases available for comparative study (see Binford 2001b), 253 or 75.4 per cent actually had sufficient information available on this subject for use in the pattern-recognition exercises to follow. The coding of the variability documented was tabulated by four belief classes, which are:

1. It is natural to die. Similarly, it is natural for death to strike across the age and social spectrum. Deaths are not considered extraordinary; although they may be sad, lamentable, etc., they are not seen as signals implicating inferred agents, forces, and/or conditions that must be dealt with by the living.

2. It is natural for persons to die, but when unexpected deaths occur among persons of any age or sex there is
reason for concern regarding the operation of 'unnatu-
ral' causes. Deaths by drowning, by falling from a
tree, deaths at the hands of other persons, etc., are
all examples of such special conditions. Un-
der such special circumstances there is an 'un-
natural' ambience surrounding the deaths and
the living should be cautious and suspicious.

3. It is natural for children and old persons to die,
but when adults in the prime of life die, unnatural causes
are suspected. Most commonly, witchcraft, spirit
intrusions into the world of the living, etc., should
be investigated. It is notable that frequently only
the burials of prime adults were described ethno-
graphically. Thus the mortuary procedures for
children and old persons are ethnographically
unknown in many cases.

4. It is unnatural to die. All deaths are caused by
forces, persons, or conditions that also may con-
tinue to impact the living. All deaths must be
taken seriously, and if possible the causes elimi-
nated and/or appeased so that there is not a con-
tinuing threat to the living.

When we examine the frequencies of types of behav-
iour relative to these beliefs we note interesting pat-
terns. Perhaps one of the more provocative examples
results from running cross tabulations between the beliefs addressed above and the 98 other ordinal or non-
ornal variables in the data set available to me. Our
probe variable, concerning the basic beliefs regard-
ing death, when cross-tabulated with each of the 107
variables yielded Pearson's chi-square probability
values so low for 98 of these variables, that the null
hypothesis of no relationship must be rejected. Thus,
all 98 of the beliefs concerning death with these 98
different variables may be suggested.

Think about this; 98 of the 107 other variables
are related to the probe variable in a linear or pro-
portionally correlated manner. These variables have
reference to several domains of cultural properties,
Kinship~14, Marriage~14, Mortuary behaviour~10,
Political organisation~12, Wealth~5, Settlement and/or
settlement pattern~8, Subsistence~4, Trade and
regional interaction~11, Warfare and competition~9
and mls~11.

It is difficult to imagine the cultural processes
which resulted in 98 variables being related to one
dealing with the ideology of death, when it is real-
ized that the more than 250 cases of hunter-gatherers
from many parts of the world, all drawn from many
regions of the earth and represent a wide range of
organizational variability. Nevertheless, initial ex-
amination of the data set shows that the strong inter-
correlation is not extraneous and that on average
other things being equal) any additional ordinal
and or nominal variable chosen at random would
exhibit a similar level of interaction, i.e. approxi-
mately 95 per cent of all other additional cross-tabu-
lated variables would be related in a 'statistically
significant' manner as judged by Pearson's chi-
square.

Can we develop an understanding regarding the
98 variables that were suggested by statistical tests
to 'correlate' in some manner with the causes of
death variable? Unfortunately, the correlations tell
nothing about the manner and/or pattern of orga-
nizational relationships any one of the 98 'related'
variables may have shared with the tabulated four
beliefs types for causes of death. Even more impor-
tantly, the actual variables compared may carry no
direct information as to how the 'correlations' may
have been organizationally or 'causally' conditioned.
I have suggested many times that 'similar things
may be organized differently and different things
can be organized similarly'.

This paper explores the problem spelled out above.
In addition, it recognizes that the hunter-
gatherers being comparatively studied were certainly
organized into very different forms of socio-cultural
system. Relating variability in behavioural indica-
tors as well as seeking to know how behaviour vari-
ability relates to organizational indicators of sys-
tem-state differences is another goal. The latter goal
will be initially addressed as a basis for investigating
the internal accommodations which can be expected
among differently integrated cultural phenomena.

Cross-cultural comparisons of beliefs and
behaviours regarding death: looking for
organizational indicators

As stated earlier, one thing I wish to explore are the
relationships between the beliefs and the behaviours
of people. Given what has been learned in earlier
cross-cultural studies (Binford 2001b, 546-General-
izations), it is clear that different ecological articula-
tions may condition different internal forms of
organizational accommodations. Ideology might be
viewed as one of the premier integrative forces deter-
mining such accommodations. If so, we should expect
that systems which are recognized, or at least con-
sidered, as potentially representing responses to dif-
f erent types of ecological conditions, may be
internally organized from the perspective of ideol-
y or metaphysics in diverse ways. Such variability
might, nevertheless, be expected to define a limited
suite of structured forms. This suite of forms could
co-vary across a range of variability in systems state
conditions such as economic forms, political complex-
ity, scale of warfare, etc.

In order to initially address system-state di-
versity I will adopt the seven sub-classes of 'hunter-gatherers' which proved useful in my ear-
lier comparative study (Binford 2001b, 377-9, 405, 417-20) as a base-
line for recognizing dif-
ferent sub-classes of hunter-gatherer socio-
cultural systems. Knowl-
edge regarding these sub-classes will be used in
seeking to understand the clews to 'causes' that
may be embedded in correlations between ideological variables and actual cultural facts. Never-
theless, one of the more
repetitive findings of social scientists is that there is
currently a discrepancy between what is verbally
reported by informants and how the same persons
actually act with regard to the same subject (Cronk
1999, 5-10; Rothf & Murphy 1992, 51-66). Obtaining
identifiable and 'diagnostic' properties of systems
may relate to actual behaviour is a useful perspec-
tive against which to display and/or think about the
patterned results obtained from the use of cross tabu-
lations and tests like Chi square.

The seven sub-classes of hunter-gatherers that
seemed to each be macro-subsets that were organi-
zationally distinct as regards their particular forms of
intellectual organization and/or articulation to other
cultural systems were: 1) Horse mounted hunters
of the North American Plains; 2) Former hunter-gath-
erers who are a domestic food source at time of
description – "Horticulturists"; 3) Mutualists or eth-
ically specialized 'hunter-gatherers' engaged in
mutualistic exchanges with ethnically distinct pop-
ulations or subsisting economically as forest product
specialists, to a relative larger system; 4) Generic
hunter-gatherers, societies where the social environ-
ments are other hunter-gatherers; 5) Hunter-gath-
erers with socially important wealth differentia-
Table 1.1 Comparison between attitudes regarding death and systems-state differences among hunter-
gatherers.

<table>
<thead>
<tr>
<th>Subsets of causes:</th>
<th>NATURAL</th>
<th>CAUSE of Death</th>
<th>NATURAL</th>
<th>EXCEPT Trace</th>
<th>NATURAL</th>
<th>EXCEPT Prime Adults</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounted hunters</td>
<td>Not Included</td>
<td>0.04 (0.89%)</td>
<td>Not Included</td>
<td>0.01 (0.1%)</td>
<td>Not Included</td>
<td>0.02 (0.09%)</td>
<td>0.05 (0.85%)</td>
</tr>
<tr>
<td>Horticultral H &amp; G's</td>
<td>0.76 (0.42%)</td>
<td>0.76 (0.42%)</td>
<td>0.51 (0.27%)</td>
<td>0.51 (0.27%)</td>
<td>0.25 (0.13%)</td>
<td>0.25 (0.13%)</td>
<td>0.28 (0.25%)</td>
</tr>
<tr>
<td>Mutalists H &amp; G's</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
</tr>
<tr>
<td>Generic H &amp; G's</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
</tr>
<tr>
<td>Wealth diff. H &amp; G's</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
</tr>
<tr>
<td>Ranked H &amp; G's</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
</tr>
<tr>
<td>Stratified H &amp; G's</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
</tr>
<tr>
<td>Total</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.00 (0.00%)</td>
<td>0.55 (0.05%)</td>
</tr>
</tbody>
</table>

Notes:
- Pearson Chi-Square value ~ 113.73. Degrees of freedom ~ 19. Significance ~ 0.00 for the rejection of the null hypothesis of no correlation. This result should be read to the extent that the two variables are related or unrelated a pattern of proportional correlation along the cells within the contingency table.
- Within a column bold type with underlining indicates the most common association between row and column judging by the percentage in the row. Bold italic print without underlining identifies the second most common association between row and column within a column judging by the row percentage.

1. Socially ranked societies; and 7) Socially strati-
fied societies. (Bold type indicates the code word or phrase for each class. It should be further noted that in this study all information regarding mounted hunters was omitted since one of the conclusions resulting from my earlier study was that they were organizationally pastoralists and should be treated as such comparatively.)

Several patterned features of Table 1.1 are re-
vealing:

1. Both sub-clases exhibiting practices and social
forms that are related to the presence of more
complex cultural systems nearby, horticultural
and mutualists, have beliefs that all deaths are
natural, accounting for the highest percentage
observed among all the sub-classes recognized.

2. Mutualists are distinct in registering the second
highest frequency among natural death believers
who consider the death of prime adults to be
exceptions to their generic belief.

3. Horticulturists, on the other hand, have almost
as many second ranked cases associated with the
belief that accidental deaths are not natural and
practically nowhere prime adults are suspected of
'non-natural' conditions.
Other forms of belief regarding the causes of death account for higher percentages among all the other ‘legitimate’ system state variants among the hunter-gatherers. I mean by ‘legitimate’ that features reported for such cases would be more characteristic as regards ‘causal’ dynamics among hunter-gatherers per se than among multidisciplinaries or those who practice cross-cultural history. Both of whom are commonly articulated with diverse and more complex forms of non-hunting and gathering peoples. Correspondingly, the belief that death is natural distributes correspondingly among the multidisciplinary and cultural is inseparable, and is considered ‘complex’ from the perspective of the conceptual social, inequality, and/or organizationally structured differential access to goods and resources. Generic hunter-gatherers account for 43.5 per cent of all the cases being studied and differ from all others in that they have respectable numbers of cases which share all of the four belief forms being studied. The fact that the highest percentage of cases believing that death is natural (37 cases) is not as dramatic as the fact that the other five system-state subsets, which amount to (or 160 cases of the total) included in this study, only collectively account for four cases of ‘death is unnatural’ beliefs; in short 90.2 per cent of all believers in unnatural death are generic hunter-gatherers. This is a dramatic association.

Cases where wealth differentiation is certainly present but other indicators of hierarchy are lacking or not described well (those societies and some age grading) are perhaps the least satisfactory sub-class. This is partially related to the fact that wealth differentiation is not exclusively a density-dependent phenomenon (Binford 2001b, 426). Put another way, wealth differentiation occurs among peoples who are ‘ranked’ as well as those that are stratified. 89 per cent of the wealth items lack the more obvious indicators of complexity strength and the fundamental belief that death was natural. Most of them considered the death of prime age adults to be exceptional and are often death is a close second in frequency. Where these societies are to be placed with respect to recognizing distinct trajectories of organizational change. If they in fact do so, it is not well understood at present (see Binford 2001b, 422-33).

The fact that wealth distributions, occur among hunter-gatherers at all levels of density, and among all currently recognized distinct organizational forms, suggests that it is not obvious what role, if any, it plays in understanding autostrophic systems change or differentiation among hunter-gatherer cases.

When we turn to hunter-gatherers with a ranked social leadership hierarchy we find that a very similar number of cases are distributed across all the sub-sets of believers that death is natural; the highest percentage occurs with the belief that accidental deaths are exceptions to the generic belief. The second highest percentage is found with the generic belief that all death is natural. This contrasts with the frequencies recorded for the simply wealth differentiated cases, where the most common association was with prime age adults as exceptions to the belief in natural death. This difference is a clue to the possibility that wealth differentiation may be associated with ‘generic’ type hunter-gatherers who have achieved performance-based leaders. Certainly there are many such cases, particularly in the Arctic.

If we shift to the row where hunter-gatherers with a stratified society are tabulated, we note almost a total contrast with the ranked cases discussed above. Only 17.0 per cent of all participants in the mortuary rituals differentiate between persons who die in ‘natural’ or ‘strange’ ways enunciating the belief that all death is natural! A similar non-isomorphic pattern is seen when we turn to the cases where all deaths are said to be natural except for those who died during the prime of life. In spite of this belief, only 28.0 per cent of all cases who are, nonetheless, considered to be prime age adults as exceptions to their generic belief actually differentiated such individuals in their mortuary treatment! Ironically most, 54.3 per cent of the total cases, behaviorally differentiate all adults in the mortuary program when the belief was that all death was unnaturel. Once again, the behavioral bias in the actual mortuary behavior is not isomorphic with the beliefs reported by the people.

Equally interesting is the pattern noted among cases where social status differentiation is the basis for the actual differentiation treatment. Almost all such cases (88.6 per cent) are associated with the belief that all deaths are natural except for prime age individuals. Among hunter-gatherers most individuals with non-traditional articulations are likely to be persons who are also prime age adults. It seems likely that high status prime age adults are the majority that are judged to die ‘unnaturally’. Once again there appears to be a lack of isomorphism between the behavior reported and the beliefs regarding death which might be expected to stand behind the behaviors. In all cases the disjunction is such that the behavior is logically ‘premature’ relative to the reported beliefs regarding death at the time of documentation.

Generalization no. 1: The attribution of ideology is generally formulated in response to extant phenomena. Such phenomena are thereafter culturally interpreted with reference to the prior ideology. This means that further internal differentiation in behavioral details occurs before it is accommodated ideologically. In short, behavior is prior to the formulation of beliefs that ‘accommodates’ it to prior beliefs.

When the belief was that death is natural for the young and old but unnatural for prime age adults there was a significant increase in the cases where social status is acknowledged in the actual mortuary rites. The bias, more differentiation for high-status persons, almost certainly signals a very important third dimension of variability or even several such dimensions at work behaviorally but not yet accommodated by the ideology. Social status differentiation is probably at least partially correlated with prime age adults. In this regard, it should also be noted that there is a marked drop in the number of
societies which are reported to be differentiated in their mortuary practices with respect to social status when the belief is that all death is unnatural. We also have learned from Table 1.1 that 92 per cent of all believers that all death is unnatural are generic hunter-gatherers. This means that they have no diagnostically of ‘complex’ (Price & Brown 1985) hunter-gatherers. Knowing the lack of complexity to be a fundamental property associated with those that believe death to be unnatural opens the door for consideration of the variable, which, for instance, low values with non-complex cases and higher values with complex systems. Alternatively there may be other variables, associated with complex hunter-gatherers sometimes, but not positively correlated to status differentiation such that they could condition the belief that all death is unnatural! Considering bow causal variables might be structured is not easy. I will now examine the relationship between beliefs regarding the causes of death and the social scale at which mortality rates are organized. This situation has been reflected in earlier studies where the scale of mortality rates was linked to rank differences among the persons for whom the mortality rates were organized (Binford 1972, 232).

The data organized in Table 1.3 clarify the relationships of ideology to ranking and / or status hierarchy. This is particularly true for the cases where the beliefs are that death is natural, and death is natural except for accidental deaths. Both of these beliefs accompany a high percentage of the cases where the social scale of the mortuary ritual is either conducted at the family or residential social unit level. Given this fact, we may reasonably expect that such societies did not have status differentiations that were related to interactions such as much beyond the family and multifamily integrated local groups. In contrast, however, is the situation with regard to people who believe death to be natural except for prime age adults. 97 per cent of all such cases had mortuary ritual organized at the regional level or at least some in attendance were drawn from a regional scale area. This might be expected if the prime adults that died were more common leaders or active persons likely to be in-region-wide alliances. It should be clear that these data are consistent with the data tabulated in Table 1.1 where 95 per cent of the stratified hunter-gatherer cases were also natural death believers who considered the death of prime age adults to be ‘unnatural’. Other less unambiguous indicators of ‘complex’ ranking perhaps were differentials were also nearly exclusively associated in Table 1.1 with beliefs that death was natural.

Generalization no. 1

The larger the geographic scale from which participants were drawn for mortuary rituals, the more likely that the deceased were prime age adults. On the other hand, when unnatural death is the belief the mortality rates are most commonly organized at the local group scale but with visitors only drawn from an adjacent geographical area.

I think that it is safe to suggest that:

Generalization no. 3

1. Groups that believe death is natural and that death is natural except for accidental deaths have mortality rates organized at the smallest geographical scale — the residential unit itself and sometimes the family.

2. Groups which believe that death is unnatural are likely to be organized locally but with a larger ‘visitor’ pool than those discussed in no. 1 above that could be suggestive of a network-based organization.

3. Those that believe death is natural except for prime age adults tend to be organized more through regular social articulations over a larger geographical area than any of the other cases.

The association of the ‘prime adult’ set of cases with what are most likely the largest scale mortuary rituals, and the indication that 95 per cent of the cases classified as ‘stratified’ (Table 1.1) belong to this group, points to the probability that leadership should be most socially differentiated among the latter set of cases. Additionally we are less likely to see through the influence of variables through cross-tabulations confirms this view.

In Table 1.4 again focus on aspects of the mortuary program itself to see if the beliefs should be viewed as ‘causal’ of the behaviour. This table presents the cross-tabulations between the social context for the disposal location of the corpse, or parts thereof, plotted against the beliefs regarding the ‘naturalness’ of death. An initial observation is clearly in need of generalization.

Generalization no. 4

Approximately 54 per cent of the 263 hunter-gatherer cases for which all information was available disposed of corpses in a unique location for each individual.

This means that there would be no accumulation of ‘burials’ at any given location unless there was a bias in favor of particular sets such as there were soft sediments to dig into, or a concentration of moderately sized rocks to cover the corpse etc. and/or some stability in the mobility or settlement patterns of the group over time. The literature also suggests that the practice of choosing unique locations for corpse disposal in terms of the individual and the socio-geographical context of the group where the death occurs insures that corpses will not uncommonly be placed in locations unassociated with habitation debris or other nearby archaeological remains. This observation is consistent with much archaeological data for certain time periods and regions where the hunter-gatherers are suspected of being highly mobile. In such settings there are very few ‘burials’ or skeletons referable to the archaeologically represented hunter-gatherers (see S.R. Binford 1968; Harrold 1980).

On the other hand, 15.5 per cent of hunter-gatherers had small ‘cemeteries’ associated with traditional family spaces. This would most likely be when extended families tended to constitute the core of a local group unit. In this case there is a clear bias in favour of the belief that all death is natural except for accidental or ‘event-caused’ deaths.

Among the remaining approximately 31 per cent of the hunter-gatherer cases, larger cemeteries associated with the life space of some larger social unit condition the locus of corpse disposal. In this situation there is some bias in favour of the belief that all death is natural except prime adults; however, this association is far from strong. In a total of 92.5 per cent of the cases with larger cemeteries the generic belief that death is natural is also present. These proportions have strong and provocative implications for comparison with the archaeological record of hunter-gatherers. They even seem to warrant some interpretation of archaeological patterning. This point, however, must be followed up in a separate publication.
Beliefs about Death, Behaviour, and Mortuary Practices among Hunter-gatherers

The consistency of the relationships between locations of corpse disposal and beliefs as to cause of death is impressive (Table 1.4). In fact, Pearson’s R2-square yields a significance indicator of 0.65. This is suggestive that beliefs regarding death and locations of corpse disposal could be causally related. Such links were observed in all other comparison studies about death and considerations as political scale and complexity of the cases (Table 1.1), the social scale of mortuary events (Table 1.3), the actual differentiation in mortuary rites and the differentials may be made in individual cases with regard to beliefs concerning death (Table 1.2). This appears as an integrated and mutually reinforcing set of findings that could be used to warrant suggestions as to causal implications. On the other hand, we must keep in mind that little respected phrase, ‘other things being equal…’. Pattern recognition techniques may be used to identify those ‘other things’ that must be equal to warrant the inclusion of a given empirical case as being within the class of cases germane to a generalization.

Figure 1.1 helps considerably in providing a clue to the identity of major dimensions standing behind the differences between the several disposal locations tabulated in Table 1.4. The basic property space (Binfold 2001b, 80) is defined by the number of kilometres moved residentially over a year (y axis) and the log 10 value for population density (x axis). Residential mobility and population density clearly provide the context for exploring contrasting distributions in the frequencies of the three contexts of corpse disposal location summarized in Table 1.4.

To aid in understanding the distribution seen in Figure 1.1, the reference lines have been added. The line running across the figure highlights the annual 150 kilometre residential move distance, which is recognized as separating cases that use residential moves as a tactical response to sparse resource distributions as their subsistence strategy. To recognize that these are points on a graph is useful to trace the packing threshold. The exceptional cases are the Moro Laka, the Kanku Mt Shoshoni, the Tutchone, and the Walapai, for which the available descriptions are in various ways problematic.

Thus, one of ‘other things’ that must be equal for a generalization to be germane to two or more cases is that all cases should be equally well described and unambiguously coded for comparative study. The final form of corpse disposal considered is where corpses were placed in cemeteries that are linked by identity criteria to social segments larger than extended families (no. 3). These cases are shown in Figure 1.1 as solid circles. There appears to be little doubt that this type of disposal is linked in some manner to population density. The vast majority of the cases (64) fall to the right of the packing threshold and where residential mobility is less than 150 kilometres annually. There are 26 cases that are non-packed, of which all but five also fall in the low residential block, that is, less than 150 kilometres annually.

Upon reexamination of the exceptional cases in an attempt to identify the ‘other things’ that must be equal for a generalization to be applicable, it was found that all were tabulated for mobility and mortuary data from different sources referencing different time periods. It is not uncommon for readers to dismiss this type of reconsideration as ‘special pleading’. It is clear, however, that in these cases the mortuary data and the mortuary data, do not refer to the same historical setting. It is not clear in one of those ‘other things’ that must be equal for a generalization to be germane to a class of cases.

Figure 1.1 treats mobility as a single dimension measured in terms of total kilometres moved residentially. While we might expect this value to be grossly correlated to population density, as is clearly seen in the distribution shown in Figure 1.1, there is nevertheless a wide scatter of cases when considered at any given point for the value of the other dimension. The question we might expect if there is another dimension which is correlated with either one or both of the mobility or density dimensions. What comes to mind as a possible complicating factor is the tactical role of residential mobility in the overall structure of mobility patterns found among different cases studied. Thus, the hunter-gatherers being studied were coded for contrasts in foraging versus collecting mobility strategies (Binfold 1980), and then each gross class was broken down into tactical ‘sub-types’ of each. The tactic in terms of which the issue of residential mobility might be more productively studied relative to the continuous variable as used in Figure 1.1 is called (MOB/FAT) in the data set developed for use in the recently published (Binfold 2001b) comparative treatment of hunter-gatherers. The distinctions used for breaking down the foraging versus collecting strategies originally proposed (Binfold 1980) are defined as follows:

1. Foraging: includes both routed foraging, where the group feeds between target locations which are annually visited for purposes of obtaining raw material to maintain the technology (see Kloos 1977, 120-21), and general foraging, where the consumers are moved to the food resources being exploited, generally on a seasonal basis.

2. Tethered foraging: This describes the situation where the group is tethered to a critical resource such as water for some of the year. Their tactic is a modification of nos. 1 and 2.

3. Central place foraging: in this case the consumers are centrally located relative to different resources and the latter are obtained primarily by day trips out from the central location.

4. General collecting: this is where a low risk positioning of consumers is accomplished but there is a large variety of critical resources required to be obtained by task groups who commonly are away from the camp for more than one day per trip.

5. Central place collecting: Consumers are centrally located relative to a large variety of resources. Small consumer groups may disperse to different locations where they support themselves while obtaining resources to be returned to the central place.
Chapter 1

Table 1. Relationships among beliefs regarding cause of death, mobility tactics, and varying degrees of perceived risk of corporeal disposal.

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>Mobility Tactics</th>
<th>Corpus-disposal Location</th>
<th>Unique to Individual</th>
<th>Family-associated Location</th>
<th>Super Family-Social Unit Location</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death is Natural</td>
<td>Fugitive</td>
<td>28 (84.8%)</td>
<td>09 (32.1%)</td>
<td>01 (3.0%)</td>
<td>33 (36.26%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unemployed</td>
<td>02 (5.0%)</td>
<td>01 (3.0%)</td>
<td>01 (3.0%)</td>
<td>05 (5.55%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>G Folks</td>
<td>06 (18.8%)</td>
<td>02 (6.9%)</td>
<td>01 (3.0%)</td>
<td>09 (9.99%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Colleter</td>
<td>05 (21.7%)</td>
<td>06 (26.1%)</td>
<td>01 (3.0%)</td>
<td>12 (2.5%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collector</td>
<td>01 (0.3%)</td>
<td>01 (0.3%)</td>
<td>01 (0.3%)</td>
<td>03 (2.80%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deadend</td>
<td>01 (0.3%)</td>
<td>01 (0.3%)</td>
<td>01 (0.3%)</td>
<td>03 (2.80%)</td>
<td></td>
</tr>
<tr>
<td>Death is Natural except Accidents.</td>
<td>Fugitive</td>
<td>27 (86.15%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>27 (27.26%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unemployed</td>
<td>03 (10.5%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>03 (10.50%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>G Folks</td>
<td>04 (7.0%)</td>
<td>01 (0.3%)</td>
<td>01 (0.3%)</td>
<td>06 (6.66%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Colleter</td>
<td>01 (0.3%)</td>
<td>01 (0.3%)</td>
<td>01 (0.3%)</td>
<td>03 (3.33%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collector</td>
<td>09 (28.1%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>09 (28.10%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deadend</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td></td>
</tr>
<tr>
<td>Death is Natural except Accidents.</td>
<td>Fugitive</td>
<td>22 (88.05%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>22 (88.05%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unemployed</td>
<td>03 (13.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>03 (13.00%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>G Folks</td>
<td>04 (7.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>04 (7.00%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Colleter</td>
<td>01 (0.3%)</td>
<td>01 (0.3%)</td>
<td>01 (0.3%)</td>
<td>03 (3.33%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collector</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deadend</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td></td>
</tr>
</tbody>
</table>

Note: Reading this table should be thought of an examination of mobility tactics related to Corpus-disposal locations across the idea of causing death effect, regarding cause of death is held constant. This is the little pattern change with large ideas regarding death.

Table 2. Comparison between attitudes regarding death and a classification of environment by temperature.

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>Corpus-disposal Location</th>
<th>Unique to Individual</th>
<th>Family-associated Location</th>
<th>Super Family-Social Unit Location</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death is Natural</td>
<td>Fugitive</td>
<td>32 (77.28)</td>
<td>00 (16.7%)</td>
<td>01 (0.25%)</td>
<td>00 (0.25%)</td>
</tr>
<tr>
<td></td>
<td>Unemployed</td>
<td>02 (5.0%)</td>
<td>01 (0.25%)</td>
<td>01 (0.25%)</td>
<td>04 (4.00%)</td>
</tr>
<tr>
<td></td>
<td>G Folks</td>
<td>06 (15.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>06 (15.00%)</td>
</tr>
<tr>
<td></td>
<td>Collecter</td>
<td>01 (0.25%)</td>
<td>01 (0.25%)</td>
<td>01 (0.25%)</td>
<td>03 (3.00%)</td>
</tr>
<tr>
<td></td>
<td>Collector</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
</tr>
<tr>
<td></td>
<td>Deadend</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
</tr>
<tr>
<td>Death is Natural except Accidents.</td>
<td>Fugitive</td>
<td>31 (77.25)</td>
<td>00 (16.7%)</td>
<td>01 (0.25%)</td>
<td>00 (0.25%)</td>
</tr>
<tr>
<td></td>
<td>Unemployed</td>
<td>02 (5.0%)</td>
<td>01 (0.25%)</td>
<td>01 (0.25%)</td>
<td>04 (4.00%)</td>
</tr>
<tr>
<td></td>
<td>G Folks</td>
<td>06 (15.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>06 (15.00%)</td>
</tr>
<tr>
<td></td>
<td>Collecter</td>
<td>01 (0.25%)</td>
<td>01 (0.25%)</td>
<td>01 (0.25%)</td>
<td>03 (3.00%)</td>
</tr>
<tr>
<td></td>
<td>Collector</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
</tr>
<tr>
<td></td>
<td>Deadend</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
</tr>
<tr>
<td>Death is Natural except Accidents.</td>
<td>Fugitive</td>
<td>29 (74.41)</td>
<td>00 (16.7%)</td>
<td>01 (0.25%)</td>
<td>00 (0.25%)</td>
</tr>
<tr>
<td></td>
<td>Unemployed</td>
<td>03 (8.0%)</td>
<td>01 (0.25%)</td>
<td>01 (0.25%)</td>
<td>05 (5.00%)</td>
</tr>
<tr>
<td></td>
<td>G Folks</td>
<td>06 (15.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>06 (15.00%)</td>
</tr>
<tr>
<td></td>
<td>Collecter</td>
<td>01 (0.25%)</td>
<td>01 (0.25%)</td>
<td>01 (0.25%)</td>
<td>03 (3.00%)</td>
</tr>
<tr>
<td></td>
<td>Collector</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
</tr>
<tr>
<td></td>
<td>Deadend</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
<td>00 (0.0%)</td>
</tr>
</tbody>
</table>

6. Differentiated collecting. A base camp is provisioned by forcing task groups (generally family groups) within the base camp and historically organized labour parties (generally single-sex work groups) who supply the camp by obtaining and returning to the camp needed foods and products. In both cases, groups away from the base camp tend to support themselves while in the field.

Table 1.5 was created to help in diagnosing the more likely variables standing as causal clues to variables that are highly correlated to ideological variables.

There are several important features of the above table. Most importantly, the strategy of the table design was to hold beliefs about the causes of death constant by summarizing the frequencies for mobility tactics with corpse-disposal locations separately within each belief-based class of cases. For ease in reading the table, I have identified what I call pattern one which is characterized by having the Fugitive type of mobility pattern, as the highest count and percentage in each sub-class as defined by with unique decisions as to the location of corpse disposal is the central plate collector category (C.P. Collector) and for less mobile types of this category fall in the unique corpse-disposal location column across all the belief-based classes. The exception is when death is considered unnatural. In that case

I think that by saying that these patterns, unlike any of those previously exposed in the earlier tables, implicate quite directly properties of the habitat and ecological relationships between the socio-cultural system and the environment. The implications of the natural selection of corpse disposal are ambiguously consistent between peoples who choose the place for corpse disposal uniquely for such decreased natural selection, where corpses are localized in locations associated with family localization and/or super family social units. We are talking about net selection, and some of the cultural contexts which are the alternatives within major mobility strategies represent a major articulation between social units and the character and productivity of the habitat.

In my earlier research mobility tactics were viewed as fundamental points of articulation between the internal characteristics of the socio-cultural systems and the larger-scale properties of the habitats and ecosystems from which hunter-gatherers derived their material products for sustaining life.

I think that further demonstrations are unnecessary to make the point that simple examination of the internal functional articulations, as in Tables 1.1–1.4, are inadequate for leading us to explanations for systems state variability as evaluated at the socio-cultural systems level. On the other hand, systems analysis is required in order to account for the differences and similarities between cultural systems are most recognizable and relatively determined pattern. For instance, I actually calculated cross-tabulations for many more characteristics than have been reported here. Properties that are strongly related to mobility patterns are four different measures of warfare and both states represent the scale at which comparative differences and similarities between cultural systems are most recognizable and relatively determined pattern. I think that the different cultural of social systems is integrated at multiple social scales and the scope
of synergistic relationships may be manifest at several very different organizational levels. To illustrate what I am suggesting, I will conclude with a simple tabular demonstration.

In Table 1.6, there is a simple tabular demonstration presented. In Table 1.6, there is a simple tabular demonstration. The first is a simple tabular demonstration presented in Table 1.6. There I am seeking answers to a simple question, is there any evidence that beliefs are a function of belief might be related to basic environmental variables? It should be pointed out that the sequence, left to right, for entering the different recognized 'causes' of death beliefs has been modified in Table 1.6. If the earlier tables a simple logical scheme was followed in arranging the identity of columns left to right. It started with the belief that all death was natural and proceeded with that through the column where the generic belief was that death was natural but the exceptions were prime-age adults. Finally, the last column was for believers that all death was unnatural. In Table 1.6 the sequence of columns has been modified to follow what could be a natural serial pattern relative to climate zones with some potential systemic and/or biological significance. What is shown by the new column arrangement is a seriation of beliefs against climate zones, with the warmest polar climate having the highest frequency of natural-death believers; the second most frequent is found in tropical environments. The latter fact mirrors the lower frequency of hunter-gatherers in warmer climates (see row totals). Next in the series are those that believe death is natural but consider accidents to be exceptional. Cool temperate pastoral setting are tied with an equally high percentages of the latter cases. In addition, we see a gradation towards warmer settings across the first two columns. The third column continues the trend with beliefs in unnatural death concentrated in the warmer settings with practically no cases in the coolest three climate zones. What is, perhaps, surprising is that the fourth column appears logically to be a member of the natural series running from death is natural to death is unnatural except for prime-age adult exceptions, but there is not any obvious trend in warm settings. The series as arranged above is more convincing running from death is natural to death is unnatural, with prime-age adults appearing as exceptions to the belief that death is natural to 'unnatural' 'continuity'. This would be expected if the causes of social complexity, a conditioner for social ranking among hunter-gatherers, were independently distributed relative to the overall geographic distribution of funerary beliefs. Although the functional anthropologists have contributed greatly to our understanding of the interrelatedness of the elements of social organization, they have done little to illuminate the dynamics of culture change. Indeed, so strongly have they emphasized the internal integration of social systems that they have made almost no theoretical provision for change.

I hope that this monumental error is not made in this paper. In addressing it, I must point out that the causal variables pushing hunter-gatherers systems in the direction of complex social forms, appear to respond to the same conditions that pushed the diversification of mobility strategies which varied with corpse disposal locations in independent ways across the classes of belief about death (Table 1.5).

Synthesis

What have we learned? First, and perhaps most importantly we have learned that one may empirically investigate beliefs and how they are related, as well as how they are integrated with other phenomena. I have even suggested that, in at least some circumstances, beliefs follow behaviours. Put another way, they may be 'rationalizations' for practice. The fundamental problem of the beliefs that have been learned, however, is what that appears self-evident, is a function of what one is willing to consider as being relevant. It should be recalled that I assumed that the placement of the corpse (Table 1.4) was part of a set of related mortuary behaviours that should be integrated with the other mortuary and their justifying beliefs. This seems to support this form of reasoning regarding belief-based integration. The correlations, if accepted at face value, were seen as self-evidently true, and directly implicating belief-structures to these causal arguments targeting the 'independent' variable versus the dependent variables within a system. Doggedly holding on to a culturally conditioned belief that there is only one cause, or at least there is only one proper domain to search within for causes, is not a productive learning strategy. The above-listed properties, operating dyanmically and independently together in complex settings, are the basis for the presence of complexly organized hunter-gatherers in some environmental settings. This view is of course at least partially a 'functionalist' view. It is the second methodological approach to be 'self-evident' in interpretation regarding burial location based on Table 1.4 turned out to be dramatically uncompelling. Given hindsight, we may look back and say that it should have been more obvious that the decision setting is often related spatially with respect to the settlement pattern, particularly when dealing with mobile peoples, that the choice of disposal location for a corpse is, therefore, clearly going to be related to the settlement pattern. In turn, the latter should be related to states system indicators such as political organization. This of course is a potentially counterproductive argument. I did not reason this way when I offered interpretations for Table 1.4. Nor did I think that a variable like the choice of disposal location for a corpse would depend upon anything but other aspects of the social organization of the people. The actual pattern turned out to be correlated with beliefs regarding death, what more do you want? The answer is much more, since correlation may reflect independence of the two phenomena and we have already generalized. Cause of behaviour may not be relevant when rationalization is involved. Perhaps the best illustration of this is the strong correlation between the beliefs regarding death and the scale of political organization given in Table 1.1. I think that few would argue that the beliefs regarding death caused the scalar differences in the politically organized units achieved by different hunter-gatherer societies. What good then are the correlations? What about the 10 variables that do not add up? What good are the variables that were independent, tabulated, and accounted for independently, tabulated, and accounted for independently? These few of these variables were found to be strongly correlated with the variable beliefs regarding death represented among the cases. I have hinted at one type of response, namely to point to the cultural integration of cultures, and thus an expectation that the beliefs would 'go with or be fitted to' the behaviours, customs etc. This is very nice and may even have some truth standing behind it. Nevertheless, this is an accommodative argument and we all know we can accommodate just about anything we might experience to what we would like to believe. Instead of being content with a rather vacuous accommodation, can we try to learn more from the results obtained thus far?

Several features of Table 1.5 may provide clues as to how the extraordinary number of correlations reported in earlier came about. Table 1.7 reports the results of having partitioned the master data sets for hunter-gatherers into three subsamples, depending upon the dominant or subsistence of food. These were warranted by earlier work previously reported (Binford 2002, 366-72) where it was found that the food source was a major determinant of differing response patterns, particularly in the case of the horticultural or agricultural subsistence. The horticultural or agricultural subsistence shows no hunter-gatherers primarily dependent upon terrestrial animals actually exist at population densities greater than 12 people per square kilometer. These are less than five exceptions and all of these are strong supplementary exploiters of aquatic resources. This means that only a very small segment of the density range of variability is documented among the terrestrial mammal hunters.
Table 1.7. Tabulation of the number of variables correlated and not correlated within three subsistence-based subsets of cases when these are subdivided into very different variable categories, below regarding cause of death, (Hendricks) and Ordination of four yoking related population density clues (Packard).

<table>
<thead>
<tr>
<th>Subsets of the hunter-gatherer master set of cases</th>
<th>103 Variables related to the variable — cause of death a CAUDARIOCH</th>
<th>103 Variables related to the variable — Packing order c PACKORAH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subset by food source</td>
<td>Number of cases</td>
<td>Number of variables not correlated</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-----------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>Terrestrial plants</td>
<td>22</td>
<td>81</td>
</tr>
<tr>
<td>Aquatic resources</td>
<td>101</td>
<td>91</td>
</tr>
<tr>
<td>Terrestrial animals</td>
<td>52</td>
<td>41</td>
</tr>
</tbody>
</table>

Note: The cause of death variable is already explained on pp. 5-6, of this manuscript. The variable (Packard) is defined as follows: (1) population density less than 0.57 persons per 100 square kilometers, (2) population density between 0.57 and 5.07 persons per 100 square kilometers, (3) population density between 5.07 and 56.97 persons per 100 square kilometers (see Binford 23:4, 435-6).

Beliefs about Death, Behaviour, and Morality Practices among Hunter-gatherers

All of these peoples live in non-complex social systems, where leadership status is achieved; that is, where followers choose the leader by differentially associating with a person who is a reliable hunter with good tactical judgment. Put another way, the range of organizational variability represented in the total class of hunter-gatherers is very small among exclusively terrestrial animal dependent cases. Not only is the range of variability very limited, the actual number of cases contributing to the variability is much smaller than is true for terrestrial plant and aquatic resource dependent peoples. Examination of Table 1.7 indicates that all four of the variables having the highest numbers of variables that returned a ‘Pearson’s r’ value requiring acceptance of a lack of correlation 0.02 per cent of the comparisons with the cause of death variable, and 7.6 per cent for the packing ordination variable. It should be borne in mind, though, that at least 50 per cent of the range of variability for the packing variable was excluded given the empirically low population densities recorded among terrestrial hunters.

Turning to the set for aquatic resource dependence, we have a relatively small number of variables as correlated to the cause of death and the packing ordination variables, 0.3 per cent of the 103 comparisons with the cause of death variable returned the verdict of ‘correlated’ while for packing ordination 68 per cent of the 103 variables were correlated. Unlike the situation with the terrestrial Animal dependent cases, Aquatic Resource dependent cases are found across the full range of variability in social complexity documented among hunter-gatherers. The most complex cases, as judged by political hierarchy, are found here and in some numbers, while minor organizational differences are also well represented.

The reader might wonder why I am stressing the ranges of organizational variability represented in each sub-set of cases. The answer is simple. When I created the variables I tried to cover the full range of fundamental variability documented in the ethnographies among the hunter-gatherer peoples. This was a simple step process of initially recording the behaviours, attitudes, and/or descriptions of events germane to the initially broad categories of interest with which I worked. In most cases the details were too specific and I then tried to create more than seven categories that would cover the range of variability documented by specific details and at the same time group the unique data into sets based on the features that they shared.

What this approach produces is a large number of ordinal variables and, when treated by cross tabulation, a large number of ‘significant’ results. These do reflect the integration that exists within systems at different segmental levels of complexity and/or in different adaptive contexts. This type of data is, nevertheless, best used with data-reduction strategies to permit the recognition of different ‘types of system’ and systemic sequences with, perhaps, different initial conditions and or ‘other things’ that are not equal. When employed with tactical shifts in the scales of comparison, as was done in Table 1.5, one can lean a great deal about how conditioning variables may be articulated that is very different from one’s initial assumptions and/or impressions of how things go together in the external world. A different type of learning can derive from examining the details of the relationships between beliefs and practices as seen in Tables 1.2-1.4. All of the latter provide clues and redundant examples of how beliefs fit with different systems state indicators as well as being differentially integrated elements of, for instance, mortuary rites. As has been pointed out, the patterning shown in the above-mentioned tables reflects integrations already achieved organizationally, not causes for such integration. Not until the introduction of Table 1.7 did I shift both the scales of comparison while at the same time changing the domains and currency used in comparison for further informing us about the world I sought to understand. Knowing what to expect from data constructed with varying goals is essential to good analysis.

Conclusions

The lesson learned in this paper should be taken to those researchers content with performing a chi squared test for correlation of variables, one said might be identified as the independent variable with a second identified as the dependent variable. One cannot know these things before analysis is conducted. Statistics is not a warranting argument for discovering ‘objectivist’ truth. I think it has been shown that there is as much ‘subjective’ interpretation standing behind the numbers as was learned for examining property space maps (see Skott 2002, 267), maybe even more.

What I hope has been illustrated, in 1) learning does not derive from interpretation (see Binford 2001a); 2) learning can derive from analysis, but such work must be tactically executed so as to take advantage of the various ways data may be organized and compared. Central, I move to the latter, is the use of analytical strategies that attempt to maximize the number of different scales, domains and initial conditions, and that are reluctant regarding those other things that must be equal. The unrelenting call by critics for ‘statistics’ as the only acceptable means for warranting knowledge claims about data should be tempered by the realizations that one can never prove an argument, simply because one can never be sure that one has adequate German knowledge of all the relevant empirical material. The contrast between the conclusions drawn in the discussion of Table 1.4 versus Table 1.5 should be sufficient on this point.

Nevertheless, one can learn about beliefs using the methods of processual archaeology. That these methods are general and not unique to archaeology is demonstrated in this paper and in earlier articles and books using ethnographic information. That archaeologists can increase our knowledge of social and ideological cultural systems through the further expansion of archaeological analytical methods is certainly expected. This was an expectation expressed in some of my earliest writings (Binford 1969, 218-19) and it has been realized subsequently.

References


