

## EPISTEMIC INDEPENDENCE BETWEEN TEXTUAL AND MATERIAL EVIDENCE<sup>1</sup>

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Claims about the human past require some form of evidence, whether textual or archaeological, to make the case for accuracy and credibility. The epistemic work is done most effectively by independent evidence, that is, evidence that is not itself influenced by or in collusion with the claim it is supposed to support. Many archaeologists and historians have been explicit in emphasizing this kind of independence. Binford, for example, in explanation of the benefits of middle range research in archaeology, links the objectivity of theory-testing to, 'the status of logical or intellectual independence between ideas being evaluated'.<sup>2</sup> And historical archaeology is particularly suited to exploit the benefits of independence as between textual and material sources of evidence. This has been openly advocated by Leone and Crosby, and by Leone and Potter.<sup>3</sup>

The concept of independence which is at work in these cases is invariably left unanalyzed, but given the heavy epistemic burden it carries, independence deserves some attention itself. A close look will show that there is in fact a variety of ways that claims about the past can be independent of one another. There are, in other words, several kinds of independence between such claims, whether between two evidential claims or between an evidential claim and the reconstruction of the past it is meant to test, and it will be important to see which of these kinds of independence is up to the epistemic task.

Once the specifically epistemic form of independence has

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<sup>2</sup> L. Binford (1982) 'Objectivity-Explanation-Archaeology 1981', in *Theory and Explanation in Archaeology* eds. C. Renfrew, M. Rowlands, and B. Segraves (New York: 1982) 128.

<sup>3</sup> M. Leone and C. Crosby (1987) 'Middle-Range Theory in Historical Archaeology', in *Consumer Choice in Historical Archaeology* ed. S. Spencer-Wood (New York 1987) 397-410; M. Leone and P. Potter (1988) 'Introduction: Issues in Historical Archaeology', in *The Recovery of Meaning* eds. M. Leone and P. Potter (Washington: 1988) 1-22.

been identified it will be seen to cut across the distinction between text and artifact or the disciplinary divide between history and archaeology. Evidence from the textual record is not necessarily independent, in the relevant epistemic sense, from evidence from the material record. So while texts and archaeology are often a good source of independent support for each other, this independence cannot be assumed.

#### ACCOUNTABLE EVIDENCE

Evidential claims, if they are to be useful in testing hypotheses about objects and events outside of immediate experience, must themselves make reference to things in the same, unexperienced realm. Whether it is of the past, the very small, or the very distant, evidence is relevant to theory only when it speaks of events that touch the objects of theory. Evidence reports the connection between what can be observed and what cannot, and for this reason, evidential claims are themselves in need of some support, some justification and account of the reliability of the link between what is manifest in experience and what is of interest. This account is most naturally provided through a description of how the data were formed. This is true of the textual record, where knowing the intentions, abilities, and activities of the author helps in assessing the reliability of the written description. It is true as well of the material record, where, as Binford and Schiffer have made clear, an understanding of deposition and subsequent alteration of artifacts is necessary for dealing with the 'distorted reflection of a past behavior' presented by the material evidence.<sup>4</sup>

This sort of accounting of the evidence contributes two things: it provides justification for evidential claims and it enhances the meaning of the evidence. There are two senses of 'meaning' with reference to evidence of the past, though both pertain to what the evidence is *of*. In one sense the meaning of evidence is its physical indication, as in 'these clouds mean rain this afternoon,' or, 'these wasters mean there was a ceramic workshop and kiln at this site.' The wasters are evidence of the kiln, but this is known only with the assistance of some, in this case pretty minimal, background claims. The background claims in this example are about the behavior of ceramic workers and the properties of clay. These describe the link between

<sup>4</sup> M. Schiffer (1976) *Behavioral Archaeology* (New York: 1976) 12.

what the evidence means, the kiln and associated activity, and what is seen, blobs of ceramic. They play the role of middle range theory by answering the question, 'what meaning is to be attributed to empirical observations?'.<sup>5</sup>

The other sense of meaning applies to the intentional reference of words and symbols. For example, a bit of textual evidence of Athenian cleruchies is secured with the realization that Thucydides means a cleruchy when he describes a colony (anoikoi) at Mytilini.<sup>6</sup> This meaning is understood from context and a knowledge of other circumstances of the time and place. The meaning of the Thucydidean passage, its evidential content, is secured by accounting claims that speak of other objects and events in the past.

The same sort of accounting claims provide the justification of evidence and secure the reliability and accuracy of evidence. Such justification is an epistemic responsibility, as the informational link, from pieces of ceramic to their being wasters to the presence of a kiln, is by no means indubitable. The link and the justification are found in the description of the source, in this case the kiln, and the events through which the information is transferred. Such accounting is well known in the context of archaeology as it is the business of middle range analysis. The textual record bears the same epistemic responsibility of justification, and in this sense history, no less than archaeology, calls for and benefits from middle range research. In the historical context the accounting claims, the response to questions of credibility of a text, include claims of the intentions of the author, the author's access to the events and his, or his witness' qualifications as an observer. A full appreciation of both the meaning and reliability of textual information requires some understanding of the author's presuppositions and the conceptual context of the writing, as well as more mundane matters of the treatment of the text over time and the reliability of its transcription and translation.

The point so far is simply this. No evidence for claims about the past is above the responsibility of justification. Nor is its informational content, its meaning in either sense, obvious or immune from ambiguity. Fulfilling both requirements, justification and informational content, is the role of accounting

<sup>5</sup> L. Binford (1977) 'General Introduction', in *For Theory Building in Archaeology*, ed. L. Binford (New York: 1977) 2.

<sup>6</sup> A. Graham (1983) *Colony and Mother City in Ancient Greece* (Manchester: 1983) 170.

claims, and only such accountable evidence is acceptable evidence. Furthermore, and this is important, the accounting claims are also, at least in part, about objects and events in the past and are themselves in need of justification.

In the usual case the accounting claims do not have any epistemic priority over either the evidential claims they support or the original reconstruction of the past the evidence is intended to test. The relevance and reliability of the evidence, in other words, is not inherited from an antecedent relevance and reliability of the accounting claims. The accounting claims are generally no more objective, empirical, or whatever is the appropriate epistemological standard, than are the evidential claims they serve to justify. The epistemic authority does not come from one side in the intersection of accountants and evidence; it comes instead from the feature of independence between the accounting claims and the beneficiary of the evidence.

Philosophers of science are fond of the slogan that evidence is theory-laden, and they have in mind exactly the sort of lading with accounting claims as described above for evidence in archaeology and history. But the influence of theory on evidence does not lead to a problematic circularity in the testing of theories provided that the observation is laden only by theories which are independent of the particular theory for which the observation is evidence. An insistence on independence blocks any self-serving testing of a theory by evidence of its own sponsorship. In this way it is acknowledged that testing and the evaluation of our claims about the world must be done from within our own conceptual position, but it can be done at least outside of the influence of the particular theory under evaluation. Independence, in this sense, is the key to objective justification.

This analysis applies to studies of the human past no less than to natural science, and it suggests an opportunity for history and archaeology to cooperate. Texts and artifacts can be sought as independent sources of information to serve as accounting claims, as middle range theories, for each other. Leone and Potter are explicit in advocating the middle range strategy in historical archaeology by the use of texts and archaeology as independent evidence. Thus, 'four parts of middle-range theory are particularly useful for historical archaeology: (1) the independence of the archaeological and the documentary records, (2) the concept of ambiguity, (3) the use of de-

scriptive grids, and (4) the idea of organizational behavior'.<sup>7</sup> David Small also takes advantage of the epistemic value of independence, pointing out that 'texts often supply enough detail for archaeologists to impute the structure behind independent data'.<sup>8</sup> Neither source of information, texts or archaeology, is assumed to have more epistemic authority than the other. One is useful, persuasive evidence for the other because of their mutual independence.

It will be helpful to be clear on exactly why independence is epistemically beneficial and to articulate the intuition behind the methodology. A large part of the concern in testing and judging claims about the past is the prevention of systematic errors as would be caused, for example, by a consistently mistaken dating process or a persuasive but deceptive author. Relying on the likes of this evidence would be like viewing the world through distorting glasses in that it would consistently affect every view and every piece of evidence acquired through those means. The distortions will not be revealed by looking at more things or by looking more closely at the same things. More looking is not the answer; using other senses, for example feeling the shapes we see or feeling the heat of the fire we see, is the more informative evidence. But it is not more informative because feeling is generally more reliable or more accurate than seeing. It is rather that feeling is an independent source of information and the chance that such independent sources will report the same falsehood or will coincidentally support each other's reports is small, smaller at least than the chance of any one of them being false.

An analogy helps to further understand this intuition and to point out the features of the particularly epistemic kind of independence. In courts of law, the jury and officers of the court must be aware that sometimes witness lie, misremember, and misperceive, not unlike historical sources. Credibility of a witness can be based on several factors including a consistency of their testimony with information from the material evidence. If the witness says he heard two shots, and two bullets from the scene are produced as evidence, there is reason to believe the testimony. The key to this justification is that the material evidence is independent in the sense that the witness cannot

<sup>7</sup> Leone and Potter (1988) 12-13.

<sup>8</sup> D. Small (1987) 'Toward a Competent Structuralist Archaeology: A contribution from Historical Studies', *Journal of Anthropological Archaeology* 6 (1987) 107.

tamper with it and, in the best case, has no previous knowledge of it, and so is powerless to concoct a consistent story. Where there is no collusion, consistency is more likely an indication of truth. It works as well to compare one witness' account with that of another, independent, witness. Most important is to hear testimony from witnesses with no close relation to the defendant and nothing to gain from the outcome of the trial. Consistency in the accounts from two witnesses with close ties or with a vested interest in the verdict is not so impressive since it is little more than a single story retold. A second hearing is no serious test of the first.

The analogy between a court trial and studies of the human past can be very informative. The relationship between texts and archaeology is similar to the use of testimony and material evidence in that either can be used as independent sources of information to function in the accountability of the other as evidence. There are two distinct ways to use independent claims as accounting of evidence. Two claims can provide separate reports on the same or related events, on the one hand, or one claim can describe part of the medium of information of the other claim.

The first opportunity for independence is the more familiar. An example would be Pausanias' accounts of the terrain and monuments of Greece, accounts which can be compared to evidence in the material record as it is seen today. In this case, the written record and the material remains are of the same objects. For another example, there is evidence as provided by Herodotus about the forces of Xerxes in the Persian war. There is also an inscribed list with the same information found at the site of a Persian camp, so again the two sources of information report the same event.<sup>9</sup> It is rare though for texts and archaeology to report on the same object or event. This is due to the difference in focus between the textual and material records, and the difference of survival of texts and artifacts. Most importantly, texts and artifacts tend to report on different *kinds* of things, as Snodgrass describes. 'the general nature of archaeological evidence: it seldom speaks the language of historical events'.<sup>10</sup> While texts are most often about short-term events of punctual significance, events such as battles,

<sup>9</sup> D. Lewis (1985) 'Persians in Herodotus', in *The Greek Historians* (Stanford: 1985) 103-104.

<sup>10</sup> A. Snodgrass (1983) 'Archaeology', in *Sources for Ancient History* ed. M. Crawford (Cambridge: 1983) 166.

treaties, and expeditions, the archaeological evidence records more long-term processes and mundane behavior such as farming, the building of roads, and the habitation of buildings. Thus the two sources of evidence are rarely about the *same* events of objects, but they are often about *related* things. For example, the textual, historical account of the establishing of an Athenian cleruchy would be supported by the related material evidence of an organized network of farms. The separate channels of evidence would produce a coherent picture, assembled from independently supplied pieces: Such coherence without collusion would be a mark of epistemic justification. It is what sets factual studies of the past apart from historical novels which offer the reader coherence by design.

The other opportunity for independence involves one claim which is relevant to the description of the conveyance of information contained in another evidential claim. The clearest examples of this are in archaeology where other disciplines are used in the role of middle range theories for archaeological evidence. Dating, for example, by radiometric or dendrochronological means, requires substantial support from an understanding of radioactivity or botany, things that have nothing to do with the objects of archaeological interest, the past behavior. Archaeological evidence is also influenced by claims about the environmental effects on materials, erosion, for example, or the development of petina, claims that are relevant to the formation of the evidence but not to the object of the evidence.

There is opportunity to use this mode of independence in the meeting of texts and archaeology as well. When potsherds are dated by their matching comparanda, themselves sherds often found in context with dated texts, the texts are being used to both enhance the meaning of the original sherd and to secure the reliability of the information on dating. Even though the texts themselves are not about the object of material evidence, they are independent participants in the accountability of that evidence. As another example, Ian Morris skillfully uses burial remains as evidence of the social status of the persons buried. The informational link between social status and the physical characteristics of burial is supported by the 'unintended evidence' in literature showing presumptions and implicit attitudes toward funerary rights.<sup>11</sup> The textual information is

<sup>11</sup> I. Morris (1987) *Burial and Ancient Society* (Cambridge: 1987) 44.

relevant to the link between observation (of burial remains) and interest (social structure). Yet a third occurrence of this use of independence is specific to the case of inscriptions, of text-as-artifact. In this case the provenience of the text can be indicative of the location, circumstances, and even the motive of its writing. This contextual information, though not about the subject of the text, can contribute to an understanding of both its meaning and its reliability.

Having outlined two ways that independent claims can be used to epistemic advantage, we are in a position to see that not just any manner of difference between claims is sufficient to do the epistemic work. Insofar as there is a variety of ways that evidential claims can differ, there is a variety of kinds of independence. In the next section, the particular style of independence which is epistemically significant will be identified. From the characteristics of this epistemic independence it will be seen that the distinction it draws between independent claims does not match the distinction between textual and material evidence or between history and archaeology. Using these two kinds of evidence does not guarantee independence.

#### VARIETIES OF INDEPENDENCE

The differences between textual and material evidence that are to be articulated below are largely generalizable to all sorts of claims that report on what is not manifest in experience. Individual claims about the past, the very small, or the very distant, bear a kind of independence from each other if they differ in the following ways.

Two evidential claims could differ in that they result from different types of informational links between the observable record and the object of evidential interest. Texts and archaeology are a good example of this kind of independence. Textual information is generally initiated by an act of selection by an author. Textual evidence is the product of intentional communication through a medium of meaningful symbols with make direct reference to the objects and events of interest. The crucial steps of informational transmission in the textual case are episodes of purposeful, human interaction. That is, the style of informational link which supports textual evidence. The information in material evidence, by contrast, depends on a selection process that begins with a largely unintentional deposition and a subsequent natural selection for those materials

which endure the environmental degradation. The information in this case is passed and altered through a channel linked by both human and natural interactions, and differs significantly from the textual signal in the diminished role of human intentions. The two types of evidence, in other words, differ in terms of the way the information is made available.

For future reference, call this manner of difference between evidential claims *transmission-type independence*, since the information is transmitted by different types of interaction between the observer and the objects of evidential interest. We will put off for a moment the crucial question of the relevance of this kind of independence to the epistemic task. It will be important to know whether transmission-type independence is necessary, or sufficient, or perhaps only loosely indicative of the epistemic independence which is the key to justification of evidence.

Note first that this sort of independence is often what people have in mind when appealing to texts and archaeology as independent evidence. Leone and Crosby, for example, point out the epistemic advantage to using texts and archaeology in complementary middle range research. 'Our two sources of data—the archaeological and the documentary—are generated by two very different sets of formation processes and dynamics, and therefore two very different sorts of facts are generated'.<sup>12</sup>

Before asking whether this sort of difference is an epistemically significant difference, it will be helpful to note some other ways that data and evidential claims can be dissimilar.

Two evidential claims could differ by being formed through separate tokens of informational link, that is, by distinct, though not necessarily of a different type, interactions with the objects. Again, just for future reference, call this *transmission-token independence*. The previous distinction is a subset of this one in that any pair of claims which are transmission-type independent are also transmission-token independent. The converse is not true. Two pieces of textual evidence, for example, that are written by different authors will be transmission-token independent but not transmission-type independent since the channels are distinct but of the same kind. There are similar examples within archeology where two evidential claims are based on separate, though of the same type of artifacts of separate but similar sites. And of course there are examples of

<sup>12</sup> Leone and Crosby (1987) 399.

evidential claims that are both transmission-token and transmission-type independent. Any pairing of textual and archaeological evidence falls into this category.

Transmission-token independence comes in degrees. Different sources of information constitute transmission-token independence and this is a difference that can vary. Separate artifacts found in close proximity will produce evidence with less transmission independence than artifacts found in different rooms, and less still than those from separate sites and even distant regions. The measure of independence that results from this could be used as a scaling of justification in the sense that help from more independent evidence adds more credibility than help from less independent. But before the analysis can deal with details of this sort we must ask generally of the epistemic significance of transmission-token independence.

Transmission-token independence, like its more specialized subset transmission-type independence, matches some instances of current use of the concept of evidential independence. Again Leone and Crosby focus on the independence of the data, noting that, 'The data were made by different individuals, at different times, for different purposes'.<sup>13</sup> This is an independence which keys not so much on different types of informational processes but on different individuals, and hence different tokens, of informational transfer.

There is another kind of independence that is possible between evidential claims: they can differ in terms of what they are about, that is, what they refer to. If two claims refer to distinct objects or events, they are *reference-token independent*. This is a consideration of the meaning of the evidence rather than its formation process. A few simple examples will help to clarify this kind of independence.

Consider two examples of archaeological evidence. A light scatter of potsherds in areas close to, but not on, a particular site in southern Euboea may be used as evidence of cultivation of the nearby land and derivatively as evidence that the site was used for farming. A separate set of evidence from a similar but distinct site in Attica may serve as evidence about that site, that it too is a farm. Insofar as one evidential claim is of a Euboean site and the other is of an Attic site, these claims refer to different individuals and are reference-token independent, even though they refer to objects of the same type.

<sup>13</sup> Leone and Crosby (1987) 399.

As another, related, example, the Athenian Tribute Lists, which are about taxes owed to Athens, can be used as evidence for instances of Athenian colonization since an abrupt reduction in tribute is often associated with the seizure of land by Athenians and a resulting loss of tax burden for the displaced people. There is this kind of evidence in the Athenian Tribute Lists for the imposition of an Athenian cleruchy at Karystos in 449 BC. The tribute reduction is from 7 1/2 talents in 450 to 5 talents in 449. Separate evidence, from archaeological survey of an area very near Karystos, shows an orderly complex of farmsites, tentatively dated to the late 5th century BC, an orderly complex as would be expected of a settlement established all at once, a settlement such as a cleruchy.<sup>14</sup> Thus the one piece of evidence about taxes, and the other about a settlement pattern, refer to different things and are in this sense reference-token independent. They can provide independent pieces of what seems to be a coherent picture of the past, a picture in this case of an Athenian cleruchy.

Again though, we will have to be careful as to whether this kind of independence is sufficient or even necessary to do the epistemic work.

The example of the Athenian Tribute List evidence and the farm-complex evidence are of claims that refer to different things. They are, in this case, not only different individuals, different tokens, but they are in fact different types of things. One piece of evidence refers to taxes and economic behavior while the other is of settlement patterns and agricultural activities. For this reason it is also an example of *reference-type independence*. Evidential claims which refer to distinct types of things are reference-type independent, a subset of the previous reference-token independence. This type of independence, like the transmission-type independence, nicely matches important aspects of the distinction between texts and archaeology. That is, not only do these kinds of sources differ in terms of how the information is conveyed, they differ as to what kinds of things they are generally about. Historical evidence, texts, are most often about events and persons of punctuated importance such as battles, treaties, political authorities and their decisions. Texts generally inform us of the elite and powerful members of a culture, focusing on the political and social aspects of their

<sup>14</sup> D. Keller and M. Wallace (1986) 'The Canadian Karystia Project', *Echos Du Monde Classique/Classical Views* 30 n.s.5 (1986) 155-59.

behavior. Archaeology, on the other hand, tends to be informative of the common and disenfranchised members of a culture, more informative, at least, than is history. Archaeological evidence is of long-term, day-to-day processes of the past, with a focus on the functional and cultural aspects of behavior.

With these differences of emphasis and perspectives, differences in the type of things referred to, textual and archaeological evidence show a kind of independence such that when they agree, when they add up to a coherent account, it seems to be more than a chance coincidence.

There are, of course, a lot of trivial differences between evidential claims of the past, trivial in that they obviously have no epistemic significance. Claims differ, for example, as to when they were proposed or discovered. They differ in terms of who first introduced them and in which journals. These are clearly not the sorts of differences which amount to the independence between claims which makes their agreement or cooperation an indication of truth. It is interesting though to contrast these unimportant differences with the one which most explicitly gets to the epistemological issue.

Evidential claims about the past can differ in terms of the reasons we have to believe them, that is, in terms of the basis of their justification. Regardless of their reference or the type of informational link to the past, evidential claims require justification and this can be shared or separate between any two tokens of evidence. When the justification is separate, two claims show an explicitly *epistemic independence*. This can be made more precise in the following way. A claim *x* is epistemically independent of *y* just in case *y* does not entail any of the justification claims used to support *x*. Thus, if *y* does not contribute to the credibility of *x*, *x* can be used as independent evidence for *y* without incurring the problematic circularity of *x* supporting *y* while *y* supports *x*. When there is epistemic independence, *x* must be supported by separate means.

This kind of independence directly accomplishes the intended benefits originally set out for independent evidence. If evidential claims are independent in this way, they present meaningful evidence, in the sense that claims to be tested take genuine risks in confronting the data, because the testing process is not circular. Furthermore, independent evidence in this sense avoids the systematic errors which would be missed in relying on a single piece of evidence or even several in collusion. The point is that there are no solid, unquestionable claims or evi-

dence when knowledge is extended beyond manifest experience. If ever evidential claims need justification, then it is better to spread justification broadly for a coherence among other claims rather than to rely on a single point of support. Epistemic independence is an indication of this spread in that it shows the diversity of support for separate evidential claims.

Epistemic independence can be evaluated with the information available in the present. It is based on relationships of implication and explanatory relevance among statements; that is, among the things that investigators in the present have to work with. Contrast this with transmission independence, type or token, whose evaluation depends on additional expansive claims, claims about events in the past, describing the informational link between the present record and the past. This evaluation, in other words, depends on information which is not directly accessible to us and so adjudication of physical independence raises further epistemological questions.

In sum, epistemic independence as described above is both amenable to evaluation and effective as a hallmark of good, credible evidence. Epistemic independence is what we want as the distinction of independent evidence. Some of the other kinds of independence though may well be related to the epistemic independence as reliable symptoms or at least general indicators. The relationship among the varieties of independence is then the next important issue.

#### TEXTS, ARCHAEOLOGY AND EPISTEMIC INDEPENDENCE

As pointed out earlier, transmission-type and reference-type independence closely match the distinction between textual and archaeological evidence. That is, textual claims and archaeological claims are generally independent in the transmission-type and reference-type sense. This is important, since neither of these types of independence amounts to, or even indicates, epistemic independence. This last claim can be demonstrated systematically.

Transmission-type independence is not necessary for epistemic independence. This can be seen through an example of two authors, one with nothing to gain from a case for the credibility of the other, nonetheless commenting on the methods and abilities of the other. Dionysius of Halicarnasus, for example, explicitly describes the historical methods of Thucydides, thereby



giving us an epistemically independent account of Thucydides as a source of evidence. The type of informational link to the past is the same, as both Dionysius and Thucydides inform through written histories, but they provide importantly independent evidence nonetheless.

Transmission-type independence, as is common between textual and archaeological evidence, is not sufficient for epistemic independence either. This can be seen in the following sort of case suggested by Snodgrass.<sup>15</sup> Potsherds are often dated by reference to textual information, if, for example, there is a datable, textual reference to an episode or site which is relevant to the circumstances of finding the sherds. It would be circular then, and of no epistemic benefit from the use of independent evidence, to use the sherds to date the site or episode. In this case there are two types of information to cite as reporting on the date of the site, dating by textual evidence and dating by material evidence. It is easy to see, easy because we have sustained an epistemological perspective on the example, that any claim to independence in the evidence would be illusory. It is an intersection of textual and archaeological evidence, but the crucial information on dates has been put into the material evidence from the textual source. There is in this sense only one source of evidence for dating.

The conceptual point in this case is important. Information which arrives at the end of distinct types of channels is not necessarily independent in the relevant epistemic sense. The information and credibility of one source of information may have come directly, at some point before the final reception of evidence, from the other. I sometimes suspect this sort of thing is going on at the radio station I listen to, that the news reporter simply reads the local newspaper over the air. If this is the case then my reading the newspaper and listening to the radio supply different kinds of informational links to events in the world, but they are not epistemically independent. They involve exactly the sort of collusion that independent evidence is supposed to avoid. Radio and newspaper may in general be transmission-type independent sources of information, but further checking is needed to show that any two reports are epistemically independent. The same is true of texts and archaeology.

Similar examples and reasoning show that reference-type,

<sup>15</sup> A. Snodgrass (1987) *An Archaeology of Greece* (Berkeley: 1987) 40.

like transmission-type, independence is neither necessary nor sufficient for epistemic independence. A brief look at each condition will be enough to show how the arguments can be made.

It is clearly possible to have two evidential claims about the same type of thing, or even about the same individual thing, that have separate justification. Separate authors, for example, could describe Athenian cleruchies or even mention the same particular cleruchy. Plutarch, Pausanias, and Diodorus all mention the cleruchy on Naxos, but as long as we have distinct reasons for accepting the credibility of each author, these are epistemically independent sets of evidence.<sup>16</sup> Neither reference-type, nor reference-token, independence is necessary for epistemic independence.

It is just as clear that claims about different things (different types or different tokens) are not always independently justified. That is, neither reference-type nor reference-token independence is sufficient to indicate epistemic independence. It is particularly likely that epistemic independence will be missing if a variety of evidence relies on a shared and limited collection of comparanda as the basis of evidential accountability. The ceramic evidence from a putative Athenian cleruchy may be used as a source of information on dating and perhaps function of the habitation sites. This is clearly distinct in reference from ceramic evidence at, say, a Classical tower in Attica. The two examples of evidence are likely though to share a reliance on comparison to pottery from dateable and understandable contexts such as the Athenian Agora or Kerameikos. This shared source of informational content and credibility of the evidence diminishes its epistemic independence.

Transmission and reference independence may yet turn out to be good places to look for epistemic independence if cases of the former are often contingently cases of the latter. The important point though is that the epistemically advantageous kind of independence does not follow automatically from differences of reference or informational link as are characteristic of the differences between texts and archaeology.

There is one other kind of independence with a tight connection to epistemic independence. Transmission-token independence is a necessary, though not sufficient, condition for epistemic independence. A shared line of information would invoke a shared step in justification between two evidential

<sup>16</sup> R. Meiggs (1972) *The Athenian Empire* (Oxford: 1972) 121–22.



claims. Thus to keep their justification separate, two evidential claims must come through distinct informational paths. As an example of this, consider two ancient authors. If it is discovered that one has used the other as a source of information, as is suspected of parts of Diodorus Siculus using Thucydides as evidence, then there is this shared channel of information and with it a shared aspect of justification. Insofar as transmission-token independence is compromised, so too is epistemic independence. But the distinction of transmission-token independence alone does not entail the epistemic separation, as a previous example proves. Since transmission-type independence is a subset of transmission-token, and since transmission-type is not sufficient for epistemic independence, it follows without any further need for examples that transmission-token is not sufficient for epistemic independence.

In sum, none of the other kinds of independence, physical or reference, amounts to the epistemic independence which is the kind of difference between cooperating claims which enhances the credibility of both. It is the explicitly epistemic form of independence which is at work in both ways of applying independent evidence referred to earlier. One claim may be descriptive of some aspect of the formation process of some other evidence. This sort of support of one evidential claim by another is a significant accomplishment only if the supporting claim does not covertly reap its epistemic benefit from the supported claim. This is what epistemic independence prevents. The other style of using independent evidence involves two claims about the same, or much more likely, different but related things. The two reports effectively collapse into one if it turns out that the justification for one is tied to the other. If the epistemic independence is lacking, two pieces of evidence are no better than one.

The result of all the details on types of independence and subsequently on the relationships among the types is that epistemic independence largely ignores the distinction between text and artifact, or between history and archaeology. Traditional disciplinary distinctions cannot be trusted as a demarcation of independent sources of information. Even the careful analysis of the substantive differences between texts and archaeology shows that these are not the right differences, the epistemic differences, which provide the advantage to using independent evidence. The distinctions between textual and archaeological evidence roughly match what I have called trans-

mission-type and reference-type independence. The two sources of evidence tend to report on different types of things, using information conveyed by different types of mechanisms. But neither difference secures epistemic independence. The only remaining possibility for an epistemic significance to the text/archaeology distinction is that transmission-type and reference-type independence are jointly sufficient for the epistemic task. But they are not, as a very general example can show. It is a staple of Greek archaeology to date sites largely from the evidence of potsherds. Thus the ceramic finds at, say, an Attic farmsite are evidence of the site's date. Compare this evidence to inscriptional, that is, textual, information which firmly establishes the dating for various levels and locations in the Athenian Agora. These two sets of evidence differ in both their reference and their mechanism of formation, yet they are very likely not epistemically independent. It is very likely that the ceramic material at the Attic farmsite bears information on dates because of its resemblance to comparanda found at the Agora and dated with reference to the texts. The credibility of the farmsite evidence depends in part on the textual evidence in the sense that refuting the latter would undermine the former. Thus reference-type and transmission-type independence are not even jointly sufficient for epistemic independence.

Behind all this logical analysis is the basic conceptual point that epistemic independence between evidential claims does not match the distinction between textual and archaeological evidence. There is independent evidence within archaeology. Evidence of dating by means of dendrochronology can be independently checked by means of analyzing varves. The function of a ceramic vessel can be understood by noting its shape and, as independent corroboration, by analyzing the context in which it is found. These sorts of examples, as well as cases of using independent claims as middle range theories to describe the formation process of evidence, are easy to find. So are cases of independence among strictly textual evidential claims. Several have already been listed above, as the case of two authors, neither dependent for material or credibility on the other, providing corroborating evidence, and the case of the Athenian Tribute List giving indirect evidence of Athenian cleruchies to be compared with more direct evidence of Plutarch, Diodorus, Pausanias, and others.

Pairs of textual claims can be independent, as can pairs of

archaeological claims, as can a mixed pair from texts and archaeology. Determining epistemic independence then is a case-by-case task. It requires an analysis of the formation process of the evidence and an account of the flow of information from the object in the past to the evidential record. The key to epistemic independence is the relation between these accounting claims and the final evidential claim itself.

#### CONCLUSION

The moral of the story is to not trust the separation of texts and archaeology with the determination of epistemic independence. It is only fair to end with the suggestion to not ignore it either. Using texts and archaeology as complimentary evidence does not insure independence, but it is a good place to look. Distinct and dissimilar formation processes are more likely to lead to separately justified evidence. This makes it likely, though not guaranteed, that texts and archaeology can benefit each other as independent evidence. This can be done using either of the two styles of applying independent evidence, as separate pieces of the picture of the past, or as middle range theories, contributing to the account of the formation process of one another.

This second scheme, texts and archaeology as middle range theory for each other, is invoked fairly often, more frequently than is suggested by Leone and Potter in the comment, 'What is missing in even the best work so far is a method that solves the problem of how to array the documentary and archaeology data against each other productively'.<sup>17</sup> They advocate the middle range methods to take advantage of the independence between documentary and archaeological data. It is a good idea, and it is frequently carried out, though the middle range theorizing is rarely made explicit. A few brief, related examples will show both how independent middle range theorizing is done with texts and archaeology, and that it is a reasonably common place method.

A complex of farmsites near Karystos on southern Euboea is potentially material evidence of an Athenian cleruchy.<sup>18</sup> Much of the evidential relevance of the sites depends on the timing of their habitation, information which is provided largely by

the ceramic remains both above and below the ground. The pottery gets its dating information by comparison with comparanda found in context with textually dated material such as inscriptions or buildings of textual reference. These texts are generally independent of the hypothesis of a cleruchy at Karystos, the hypothesis that the material evidence of Classical farmsites is intended to test. In such a case, the texts provide an informational link that gives meaning to the material evidence, and these texts, though never mentioned in reports on evidence for the cleruchy hypothesis, are playing the role of independent middle range theory for the archaeological evidence.

Extending the same example, material evidence of a cleruchy, demonstration of an organized and perhaps fortified complex of farms established around 450 BC and suddenly abandoned around 400, would be supportive of textual evidence for such Athenian outposts. Diodorus Siculus refers to cleruchs sent to Andros, Naxos, and Euboea (xii,22,2), and corroborating evidence through independent means, namely through the material evidence which is a credible reference to a cleruchy at Karystos, enhances the reliability of the Diodorus text.

A more subtle use of the Diodorus text and archaeological evidence as complimentary information is more in the form of middle range theory. Patterns in the material remains on Euboea show an association between the northern two-thirds of the island with the Greek mainland, and between the southern third of the island with the Cycladic islands. Southern Euboea participates in the activities of ancient Greece largely in association with the Cyclades. Thus when Diodorus refers to the dispatch of 1000 cleruchs divided between Andros, Naxos, and Euboea, there is reason to interpret this as a reference to southern Euboea. In this way, the material evidence enhances the meaning of the textual evidence, and it is based on archaeological claims about types of pottery which in no way rely on the writings of Diodorus for either meaning or justification. It is independently justified archaeological evidence for patterns of association used in the role of middle range theory for documentary evidence.

It is likely that this sort of analysis of the justification of evidential claims and the flow of information from the past to the present textual and archaeological records will show that the intersection of texts and archaeology as complementary middle range theories is quite frequent, though usually unre-

<sup>17</sup> Leone and Potter (1988) 9.

<sup>18</sup> Keller and Wallace (1986).

ported. It could, of course, be made even more frequent, to the benefit of both history and archaeology. The benefit is epistemic, both an enrichment of the meaning of evidence and a boost to its credibility, and it comes with the epistemic responsibility of checking each case for the particularly epistemic form of independence. Differences of discipline or of forms of evidence cannot be relied on for the epistemic authority expected of independent evidence. They are however indications of likely places to check.

## HUSBANDRY, DIETARY TABOOS AND THE BONES OF THE ANCIENT NEAR EAST: ZOOARCHAEOLOGY IN THE POST-PROCESSUAL WORLD

BRIAN HESSE

### INTRODUCTION<sup>1</sup>

The study of animal bones from archaeological sites in the Near East began in an intellectual matrix which emphasized historical, both documentary and aesthetic, and zoological approaches to their interpretation. These avenues produced important synthetic results, but bones remained peripheral to the central interests of the archaeologists of the day.

Then, beginning in the second quarter of this century, a different set of archaeological perspectives took hold in some sectors of Near Eastern archaeology. These were materialist and self-consciously scientific (later often called 'processual') in outlook. They emphasized, in varied and nuanced ways, that social and political institutions and processes were embedded in ecological and economic relations. Processual accounts of the past were depersonalized. Perturbations in the working of cultural systems replaced an understanding of choices made by human actors in an historical context as the mode used to account for innovation. Further, processual accounts focussed on the comparative efficiency of cultural systems in explaining change. The relations between humans and their environment and the productivity of different adaptive systems in generating energy were treated as especially significant, while the relations between individuals and the social and ideological value of things were considered less, if at all. While originally focussed on such questions of prehistory as the 'neolithic revolution,' this non-historical approach gradually spread to the archaeology of the earliest literate 'civilizations.'

<sup>1</sup> This paper had its origin in one entitled 'Post-Processual Zooarchaeology: Zoo-Ideology and Zoo-Politics in Ancient Canaan' given by the author and Paula Wapnish at the Annual Meeting of the Society for American Archaeology in April, 1989.