History, Theory and Philosophy in Archaeology

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By

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For Susan Bridekirk

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3:3 In I. Lilley (ed.) (ed.) Native Title and the Transformation of Archaeology in the

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3:4. In A. Anderson and T. Murray (eds.) *Australian Archaeologist: Collected Papers in Honour of Jim Allen*, pp. 145–160. Canberra: Coombs Academic Publishing, 2000.

3:5 In R. Harrison and C. Williamson (eds.) *After Captain Cook: The Archaeology of the Recent Indigenous Past in Australia*, pp. 213–223. Sydney: Archaeological Computing Laboratory, University of Sydney, 2002.

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3:8 In T. Murray (ed.) *The Archaeology of Contact in Settler Societies*, pp. 200–225. Cambridge: Cambridge University Press, 2004.

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4:3 With P. Crook. *International Journal of Historical Archaeology* 9 (2): 89–109, 2005.

4:4 *International Journal of Historical Archaeology* 10 (4): 395–413, 2006.

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1

ARCHAEOLOGY: THEORY AND PHILOSOPHY

1:1: THE EVOLUTION OF ARCHAEOLOGICAL THEORY

> If anyone thinks a revolution did occur, the same must now think the revolution is over. Suddenly the new archaeology is everybody's archaeology. The rhetorical scene is quiet (Leone 1971:222).

> At the present time, when the paradigm of the new archaeology is becoming consolidated and even entrenched, I sense in the discipline both ferment and complacency. The observable ferment may be taken to mean that archaeology is in a healthy state. However, such an interpretation can be deceiving. Complacency, too, is evident in many quarters, and it is symptomatic of a profound neglect of many unresolved epistemological, theoretical, and methodological issues of the past decade. Complacency represents premature closure of discussion and debate on a number of important topics…

> A period of normal science…has emerged in archaeology. As in many normal science periods, basic concepts and principles are beginning to submerge into the murky inaccessible depths of the discipline, where they can no longer be easily questioned or challenged – until of course the next major paradigm clash. It is time to step back from the calm of the current archaeological scene and ask if the paradigm under which we now labour, ushered in by the new archaeology of the 1960s, is fully adequate for genuine scientific studies of the past (Schiffer 1976: 2-3).

> There is a malaise apparent among American archaeologists today - a feeling of uncertainty and indecision about the practice of archaeology, its relevance, and its future (Moore and Keene 1983:3).

Not so long ago many archaeologists (with some obvious exceptions as exemplified above) might have had cause to think that that the philosophical and theoretical elements of the discipline had stabilized after a period of turbulence. Leone's assessment (made some 50 years ago) should now be regarded as being charmingly optimistic. These last decades have been ones of theoretical and philosophical ferment in just about every aspect of our discipline, frequently going right to the heart of what we do and why we do it. During those years the relationships between archaeology and the societies that sustain it have also changed, bringing additional sources of pressure to fundamentally transform the discipline itself. It is now simply a

commonplace to observe that archaeology exhibits such significant diversity to the point where it is reasonable to question whether the history of these last decades has been a history of rising disciplinary incoherence. Archaeology is now very much more than the business of archaeologists and, to mangle the thoughts of the late Chairman Mao Tse Tung, more than 'a thousand flowers' have come to bloom, and as many more have come to contend.

These changes (which have both internal and external causes) have been all the more consequential because of the equally fundamental changes that have been wrought to the broader social and cultural contexts of the discipline. The discourse of archaeology has expanded considerably to meet the diverse (and diversifying) expectations and interests of the societies that pay for it, and which consume its product. In this archaeology has moved from the pursuit of esoteric knowledge of the human past what might have been considered to be the province of educated elites, towards an undertaking with significant social, cultural and political implications. Nowhere is this more apparent than in the central role played by archaeology (if not necessarily by archaeologists) in shaping our understanding of the genesis and subsequent histories of postcolonial societies. The same very much applies to fundamental changes to the social order of other societies where new understandings of the roles of gender and sexuality (among many others) have reshaped societies over the past 50 years. Archaeology has been consequential in this as well, thereby transforming our understanding of the nature and significance of archaeological knowledge. Unsurprisingly, this success has ensured that archaeology and its doings are no longer under the unproblematic control of its practitioners. It is also the case that these processes of disciplinary transformation have ensured that the interests of those who would describe themselves as archaeologists have also diverged. Thus, it is very much no longer self-evident that there is a one-to-one correspondence between archaeology as *practice* (in the sense of a body of skills related to the acquisition and description of empirical data) and archaeology as a *field of interpretation* where practitioners share common goals and perspectives.

This essay is not the place to interrogate the history of this collapse of consensus, or indeed whether such a consensus ever really existed, even at times when the predominant activities of archaeologists related to the establishment of classifications and chronologies, with the business of interpretation shuffled off to some future time when the 'data were in'. Nonetheless we might observe that the impact of radiometric chronologies, the massive expansion of global archaeology, the rise of archaeological

science, and increasingly strong connections between archaeology and cognate disciplines such as anthropology and history, created significant new data and interpretive perspectives that exposed the flimsy basis of previous archaeological consensus. David Clarke's discussion of what he termed a disciplinary 'loss of innocence' elegantly summarized the reality of 'consensus busting' in English as well as North American archaeology (especially Clarke 1973, but see also 1968; Binford 1981, 1983). Nearly 50 years later Leone's assessment that one stream of archaeology had become 'everybody's archaeology' has been completely overturned. Indeed the warnings of Schiffer and Moore and Keene that there was much unresolved and problematic in the conceptual core of the discipline now seem prescient. Interestingly these warnings of instability were quite unspecific in the sense that few were able to identify where the impetus for consensus-busting was to come from. As it transpired the next 50 years have revealed pressure from an ever-widening body of theory and perspective, and the even more diverse interests of the societies in which archaeology is practiced.

Nowhere is this more apparent than in the diverse interests of practitioners, which range widely across the landscape of political and social activism, and theoretical inspiration. This diversity of interest and perspective is particularly apparent in the intersection between archaeology, history, anthropology and heritage studies, but is also the case that inspiration for the development of archaeological theory can (and indeed does) come from anywhere. One of most obvious developments in the practice of archaeology over the 20th century has been the propensity for archaeologists to seek perspectives from a very wide range of sources, and there is no reason why this will not keep happening as archaeologists seek to connect the disciplines to contemporary social and political concerns in order to substantiate claims of social, cultural and even scientific relevance. This is particularly apparent in the general field of archaeological science which spans an ever-widening array of disciplines and disciplinary specializations that have done much to massively expand the empirical content of archaeological research. However, an expansion in the sources of empirical information also transforms the disciplinary theoretical landscape, with concomitant shifts in our comprehension of the disciplinary identity of archaeology.

Archaeologists have also come to share the field of interpretation with practitioners from other fields who are most closely linked with the identification and management of heritage. Archaeological heritage management is far from being the sole preserve of archaeologists, and over the past 40 or so years specialist heritage managers have also been drawn

from cognate fields and developed quite distinctive disciplinary identities – based around specific journals, meetings, training, and interactions with the societies in which they operate. In this case broadening the field of interested parties, especially the recognition of the importance of an indigenous interest in cultural heritage, has tended to sharpen boundaries between 'archaeological heritage' and 'cultural heritage'. For some time now disagreements about the reality of such boundaries (often glossed as a debate about 'who owns the past?') have focused attention on the mechanics of power and control, and the role of the State in managing such conflicts. Nonetheless, it is important for us to understand that such disagreements have long been present in the discipline. Perhaps the most striking case in point is the history of the differences of opinion sparked by Nazi interpretations of European culture history, which featured strong interventions from archaeologists such as Vere Gordon Childe, who had done so much to advance the value of a culture historical approach to archaeology (see e.g. Childe 1933, 1934; Murray 2023).

Exploring this aspect of the past and present of archaeology raises significant questions about how the discipline (and the societies within which it is embedded) manage dissent and disagreement in ways which do not suppress the simple fact that there can be no single approach to understanding the human past and present. Again, this essay is not the place to reinvestigate how disciplines as social and cultural entities manage the consequences of theoretical diversity, especially by suppressing or censoring 'unpopular' views. The history of science is littered with examples of disciplinary chicanery, and archaeology is absolutely no exception in this (see Lemaine *et al* 1976; Murray 2008). That recognition, and the need to explore its impacts on the history of archaeology, shapes the discussion that follows.

Some historical background: A coming from and going towards?

Any reputable history of archaeology must seek to first describe, and to then explain, the evolution of the discipline. This is no easy task because of the simple fact that since the 18th century archaeology evolved as a discipline within a very broad cultural context that included the nascent natural and human sciences. Much of the story of archaeology is also the stories of history, anthropology, geology, and antiquarianism – to name only a few – and a central feature of the history of the archaeology is a history of processes of intellectual convergence and divergence. Put simply,

disciplinary histories might also focus on the emergence of disciplines from very broad areas of inquiry into human nature and human history, and the creation of new, more specific, investigations. Canonical histories of archaeology (see especially Murray 2002, 2007; Schnapp 1997, 2020; Trigger 2006) delve into social and cultural histories of the human and natural sciences to capture the sense of a complex unfolding of inquiry that gained its shape and direction in the interaction of the work of archaeologists and the societies that both supported and opposed them.

This is no easy task, as historians need to be aware of the strong likelihood that such histories have the clear potential to veer towards *teleology*, the sense that such histories are captured by their goal of explaining the present. Of course, this does not necessarily mean that all histories are teleogical, just that a primary justification for history writing might be the need to explain the pathways along which disciplines such as archaeology came into being and achieved their contemporary characteristics. Equally, historians of archaeology might also embrace the notion that a primary goal of history-writing might be the need to disturb the 'naturalness' of the present, to point to the fact that alternative histories are possible and that these alternative histories might give voice to those who are excluded or oppressed by conventional histories. In this sense practitioners might clearly recognize that the goal of destabilizing or critiquing existing histories provides a basis upon which the *presentness* and inherent *plausibility* of *those* accounts can be interrogated. In recent years histories of archaeology have also broadened to include such *counter-histories*, most often connected to exploring post-colonial perspectives in archaeology.

All histories of archaeology, no matter whether their authors are concerned with the goals of embracing or avoiding teleology, chart the history of archaeology in a quite straightforward evolutionary pathway. Significantly these histories are most often the product of archaeologists working within the western intellectual tradition and are tasked with explaining the archaeology they imbibed as undergraduates in western institutions. In recent years archaeologists (and others) working outside that tradition have begun to publish alternative histories. Nonetheless, the bulk of these alternative histories are set within a context of opposition to conventional accounts, rather than the proposition of radically divergent visions of archaeology.

The conventional account represents a process of a coming from and going towards. In this account archaeology moved from the darkness of superstition and presupposition towards the light of reason and the

proposition of 'truer' histories of humanity. Conventionally, archaeology grew from antiquarianism, and antiquarianism from the discovery that material culture could support a range of new empirical inquiries into the histories of peoples and nations. All of this was held to have occurred before the late 18th century and is most often linked to major shifts in context from the rise of nationalism and the scientific revolution to the probability that there were alternative histories to those that supported the interests of the culturally and socially powerful. In these accounts archaeology transformed from antiquarianism into a focus on history (beginning as a focus on the histories of European societies). While there might be some disagreement amongst historians as to the precise chronology of this fundamental shift in objectives and perspectives, it is generally agreed that antiquarianism gave way to culture historical archaeology during the 19th century. The conventional account sees the focus on culture history to have continued largely unabated until the 1960s, with its replacement by the 'new' archaeology and its focus on archaeology as a discipline devoted to exploring the scientific processes of cultural and social evolution (see e.g. Watson 1995).

It should probably go without saying that this story of replacement and succession bears closer inspection. Historians of archaeology have become much more circumspect about the reality of a replacement of the perspectives of antiquarianism by those of archaeology (see e.g. Evans 2007). Indeed, it is more likely that antiquarians and archaeologists have continued to pursue both separate and connected trajectories right through to the present. The same applies to the perspectives of culture history, which were themselves highly varied ranging from the grand narratives of Gordon Childe (1925) to the much more specific economic histories of Graeme Clark (1939, 1952). There is ample evidence that the 'new' archaeology provided an alternative 'vision' of archaeology, there is also little doubt that it never completely replaced the writing of culture history as a prime objective of archaeology. Again, the histories that recount the demise of the 'new' archaeology at the hands of 'postprocessual' archaeology tend to significantly overstate either (or both) the primacy of both the 'new' and 'postprocessual' archaeologies, especially in respect of the continuing importance of the objectives of culture histories.

This notion of theoretical continuity (or longevity) as distinct from discontinuity also responds to two observations. First, that much of the discourse about theory and theories occurs at levels quite distant from the everyday challenges of doing archaeology, and making sense of what archaeologists uncover. In this sense practitioners might concede that 'theory talk' while important as a meta-account of the discipline and a

means of 'badging' the perspectives of participants, it need not necessarily impinge too greatly on the day-to-day business of doing archaeology.

The second observation also relates to the issue of theoretical longevity and responds to the notion that although theories might become unfashionable (for whatever reasons), they are rarely discarded from the archaeological canon. Further, it is entirely possible that such unfashionable theories have the possibility of returning to prominence should the cultural and social contexts of the discipline change in ways where they might now be seen as being viable. There are many examples of this process of theoretical restitution, but the most obvious have to do with the return of racial and ethnic culture histories, especially in Europe, but also increasingly in histories of indigenous communities that have survived colonialism (see e.g. Wolf 1994; Murray 1996). What we have instead are histories of archaeology that explore the increasing diversity of archaeological perspectives, where elements from its past continue to be active in its present. In this sense the *past* of archaeology is also a crucial element of its *present*.

Notwithstanding this exploration of continuity and longevity it is also simply a matter of fact that histories of archaeology clearly demonstrate an increasing focus over time on the need to make theories explicit. Nonetheless, accounts of the 'rise' of theoretical archaeology which ignore the significance of theory in the work of nineteenth century practitioners such as Lubbock, clearly misunderstand the processes whereby archaeological theories originate and evolve. If nothing else the philosophy of science has clearly established that the theory dependence of observation exists even at times when theory itself was yet to become the object of discussion. In this account there has never been a time when archaeology (or indeed anthropology, history or antiquarianism) was atheoretical. Of course, when viewed from our present state such 'theories' might seem to be more like prejudices or simply vague 'motherhood' statements, but perhaps that fate will also apply our own efforts when viewed from the 22nd century!

The history of archaeology clearly demonstrates the presence of both continuity and discontinuity, but does it support the assumption that archaeologists are getting better at describing and interpreting the human past? In other words, does it demonstrate a process of a coming from and a going towards an enhanced capacity to understand the history of humanity? In one sense there can be little doubt that there is a great deal more empirical information available to contemporary archaeologists than it was to our forebears (even those of 50 years ago). By extension, the goal of deploying such information to explore core historical questions of who, when, where,

why, and what should also imply an increasingly close connection between the empirical and the theoretical, with the result that the value of our theoretical resources might be explicitly assessed in other than circular terms. The history of archaeology indicates, to me at least, that this is not the case, with there being a widening gulf between the instruments we use to create information, and the theories we deploy to make sense of it. Viewed from this perspective we might instead that observe that this disjunction between theory and the empirical has been the most significant continuity in the history of archaeology.

Which then raises the obvious questions: must it be ever thus, and should we strive to overcome this disjunction? Part of an answer might be that perhaps the greatest benefit that will flow from a more thoroughgoing exploration of archaeological theory will be an enhanced understanding of the process whereby such theories are formed. In this sense archaeologists, no matter their theoretical predilections, should be as critical of the perspectives they embrace as of those that they reject. If we accept that a vital element of theories is an assessment of their plausibility, then we need to be much more focused on understanding how and why we find some theories more plausible than others. But this would be to embrace a fundamental uncertainty about the relationships between past and present, an acceptance that current understandings, no matter their plausibility, should be rigorously questioned through the development of the connections between those theories and the data they purport to explain. We should never underestimate the difficulty posed by the drive to explore assumptions that link very closely to the ways in which we make sense of the contemporary world, but there are excellent reasons why we should not abandon that quest (or indeed to never embark on it). It transpires that the history of archaeology also provides exemplars of cases where conventional historical wisdom has been undermined by empirical information.

Is the past completely plastic? The archaeological record fights back

Given the significance of theory as the primary basis on which we build plausible understandings of the human past, it is well worth exploring whether the past is whatever we construct it to be, or are there constraints on the knowledge we might claim about the past? Histories of archaeology clearly demonstrate that archaeological theory frequently ranges far in front of the creation of empirical information, in other words that there is a temporal disjunction between theory and the empirical. Yet that same

temporal disjunction also applies in reverse – where theory lags behind the empirical in the sense that empirical discoveries frequently provide challenges to practitioners to account for them. These are familiar oppositions and lie at the basis of the epistemic challenges of undetermination and overdetermination of 'facts' by theory (see e.g. Murray 2016).

This essay is not the place to revisit such epistemic challenges in archaeology or elsewhere, but it is important to recognize their existence. It is also important to establish that such challenges occur in all areas of empirical inquiry and encapsulate a dynamic process of tacking back and forth between evidence and expectation. In this sense, if the past were to be completely plastic (that is a complete construction of theories that exist distant from empirical confirmation), then there would hardly be any point in engaging in the collection of empirical data. Again, histories of archaeology are quite clear that while there might be disjunctions between fact and theory, this has never provided a warrant to dispense with the empirical. Nonetheless it is interesting to note that histories of archaeology also show that at times practitioners have been encouraged to dispense with theory, mostly as a means of protecting archaeology from the dire consequences of theories unconstrained by the empirical. Perhaps the paradigmatic example of this is the response to the tenets of Nazi archaeology, especially in the decades after World War II (see e.g. Eickhoff *et al*. 2023), but there are many others – usually linked to the power of ideological presuppositions, or to calls for political or social activism.

Much more can be said about the importance of enhancing the dynamic interrelationship between the empirical and the theoretical in archaeology. However, in the present context the core observation should be that the dynamic exists, no matter whether it is weak or strong, and that the social and cultural context of practitioners is a crucial determinant of the precise histories of those interrelationships. Thus at various times in the history of our discipline (such as in the 'new' and 'postprocessual' archaeologies) we might observe a much greater emphasis on the primacy of theory, while at other times it might be the reverse. Whatever the mix, it is vital that we accept that the empirical can clearly challenge the theoretical, and *vice versa*. This is a familiar observation in the history of science where examples of theories ranging far ahead of the empirical abound, with the classic example provided by delayed empirical confirmation of core elements of Einstein's theory of relativity – decades after it was first proposed.

The power of the empirical to disturb conventional archaeological understandings and the theories that support them) is most directly

demonstrated by the impact of radiometric dating on archaeological theory. One of the most revealing examples comes from Colin Renfrew's *Wessex without Mycenae* (1968) where he outlined the historical implications of a recalibration of radiocarbon dates that forced a rethink of the histories of the late Neolithic and early Bronze Ages in Europe. In this new account the purported influence of Mycenae on the Neolithic of Britain is rejected, along with the conceptual freight of diffusion from the cultural core of Europe to the peripheries of Wessex. The fact that the archaeology of Wessex could no longer be interpreted evidence of diffusion from east to west led to a radical rethink of Gordon Childe's influential conception of the chronology of prehistoric Europe with its detailed discussion of pathways of diffusion and migration in *The Dawn of European Civilization* (1925).

The application of radiometric dating systems to archaeology has seen many other fundamental changes in our understanding of the human past. Perhaps the most striking examples come from the study of human evolution where direct chronologies have added millions of years to human history and supported much more diverse accounts of the significance of fossils predating the evolution of *Homo Sapiens Sapiens*. Here the links with palaeontology and geology become more apparent and have added much to our comprehension of the histories of human beings in their broader environments.

Turing from a focus on the impact of radiometric chronologies on accounts of prehistory, we can also explore the implications of the decipherment of ancient scripts. The story of the decipherment of Linear B is an excellent example of the consequences of decipherment for the creation of histories of the Mycenaean world (see e.g. Chadwick 1990). Perhaps the most telling example is the story of the decipherment of Mayan texts The evocative story of the decipherment and the seismic impact it had on our understanding of Classic Maya society has been told many times, but perhaps most vividly by three of the most significant figures in the decipherment, Linda Schele, David Friedel and Peter Matthews (Schele and Friedel 1990; Schele and Matthews 1999). What is particularly important here is the impact of the Maya talking about themselves and their doings, an account very much at odds with previous conceptions of Mayan life derived from history and anthropology.

Even the most superficial trawl through the history of archaeology provides other examples of the impact of unexpected discoveries forcing a rethink previous account and their theoretical underpinnings. Most recently explorations of the archaeological implications of ancient DNA analyses

(particularly those related to the human history of Europe) have begun to produce radical reinterpretations of histories once founded on the distribution of material culture which now had to contend with different (but related) lines of evidence (see e.g. Kristiansen 2014, 2022). In this case (and in the other examples offered) the empirical has the clear potential to destabilise the thinking that made earlier accounts seem so plausible.

Coming from and going towards: Thinking the unthinkable

This focus on establishing the theoretical and empirical *bona fides* of plausibility rests on the perspective that knowledge about the past might come from anywhere, but that it is the responsibility of archaeologists to critically explore the reasons why some accounts are plausible and others not. It also rests on the understanding that theoretical knowledge (to a greater or lesser extent) is underdetermined by the empirical. In this account a core challenge of any account of the architecture of archaeological reasoning is to explore how archaeologists might seek to enhance the empirical content of theories, that is to address the consequences of overdetermination of the empirical by the theoretical. However, if this objective were not challenging enough, archaeologists must also respond to clear evidence that the history of archaeology demonstrates that the major impetus shaping the evolution of archaeological theory has tended to come from theory itself.

Delving a bit deeper we find that it is quite clear that the disciplinary journey of archaeology has also been a long excursion into the complex landscape of theory building about human history and the place of humanity in the natural world. This is entirely as it should be if archaeological knowledge is to count at all in the shaping of such fundamental inquiries. Thus accounts of archaeological theory (and there are scores of them) are also accounts of the strategies developed to connect these broader inquiries to the everyday business of collecting and interpreting archaeological data (for a small sample see e.g. Bentley and Maschner 2007; Caldwell 1959; Funari *et al.* 2005; Gardner *et al.* 2013; Gibbon 2013; Hawkes 1954; Hicks 2010; Hillerdal and Siapkas 2015; Hodder 1982, 2004, 2007; Harris and Cipolla 2017; Horáček *et al.* 2023; Johnson 2010; Krieger 2006; Olivier 2008; Olsen 2016; Taylor 1948; Trigger 1998; Watson 1972; Wylie 2007). In this sense a vital element of the evolution of archaeological theory has been the dynamic interaction of strategies related to a reimagination of the goals of archaeology and of the potential of its core data to contribute to

human understanding. Thus, the changing social and cultural contexts of archaeologists have given practitioners new things to build theory about and new challenges of plausibly connecting the empirical and the theoretical.

Change and transformation lie at the heart of all disciplines if they are to remain relevant to the challenges of making sense of our present experience. Nonetheless a critical element of these processes of change and transformation is the capacity for disciplines to develop standards for the evaluation of knowledge claims that do more than express the power of compulsion or tradition. Again, this essay is not the place to present an account of the changing landscape of archaeological epistemology, or indeed the existence of strategies of conviction or compulsion employed by archaeologists over the past 200 years. Nonetheless we should understand that our changing conceptions of disciplinary epistemology very clearly map on to more general discussions of epistemology and the philosophy of science. The reasons why this should be the case are self-evident, especially in the case of disciplines (such as archaeology) which occupy the intellectual frontier between science and the humanities (see e.g. Feyerabend 1975).

Nowhere is this more apparent than in the increasing significance of ‘epistemology talk’ and ‘paradigm talk’ in the archaeology of the last 50 years. More than enough ink has been spilled on poring over the entrails of claims for paradigm status for the ‘new’ archaeology which, when viewed from our present perspective, seem more like a largely unsuccessful attempt to bolster the claims of scientific status for ‘processual’ archaeology (see e.g. Binford 1981; Clark, G. 1993; Krieger 2006; Lucas 2016; Plutniak 2017; Raab and Goodyear 1984; Salmon 1993; Watson 1972). Engaging with the thinking of the major contributors to the core discussions of the value (or otherwise) of paradigms makes it clear that the appropriation of ‘paradigm talk’ by archaeologists was probably a necessary step for practitioners to take as they slowly came to grips with the distinctive challenges posed by the discipline (see e.g. Kuhn 1962; Lakatos 1978; Feyerabend 1975). The lazy assumption that for archaeology to be a science it just needed to ‘map on’ to the central role accorded to paradigms by Thomas Kuhn was eventually exposed as being largely illusory, if only because the distinction between science and paradigms could be readily established (see e.g. Meltzer 1979). Understanding the logic of archaeological reasoning required a much deeper understanding of the quite specific processes of knowledge creation and justification in the discipline as they had evolved over the past 200 years.

Taking this argument a little further, it was also clearly established that the focus on archaeology as a science ignored the essential hybridity of the discipline inhabiting the border territory between science and the humanities. That understanding underwrote two fundamental inquiries into the nature of change and transformation in thinking about the nature of the world. The first was an exploration of the idea of *epistemes* first advanced by Michel Foucault (1966), the second was the description of *scientific research programmes* by Imre Lakatos (1978). Both inquiries focused on the need to describe and explain the architecture of reasoning about the world. Foucault's concept of *episteme* was based on the perception that human knowledge is founded upon the incommensurability of different systems of knowledge. For Foucault an *episteme* both described and defined the assumptions that make knowledge possible at any point in the history of inquiry, thereby clearly delineating between what is and what is not knowledge. It is worth emphasising that both Kuhn and Foucault's accounts of how knowledge is created and identified have a fundamental connection to the social and cultural acts of scientists and others. Here we see the significance of knowledge as a shared commodity, and of disciplines as defining the landscape of what can and what cannot be shared. Significantly Lakatos' notion of scientific research programmes links these notions of community and the mechanisms whereby theories prosper and then begin to fail. For Lakatos the history of science demonstrates that some theories (in this case laws and guiding principles) are more fundamental (logically prior) than others, and are therefore the subject of greater 'investment' and greater resistance to change than others.

In all these cases there exists a tension between the existence of foundational knowledge and other forms of knowledge that flow from it. In this sense it is highly unlikely that every scientist in every situation would seek to pursue analysis and interpretation right back to first principles. Part of the power of Kuhn's concept of paradigm was its capacity to capture exactly this, and to consider the truly radical challenge posed by data that cannot be explained by the paradigm or are seriously at odds with its description of the world. Here Foucault's notion of episteme effectively describes why fundamental change in the human sciences occurs so slowly. Much is invested in ideas which make it possible for practitioners to find common ground for discussion, to identify profitable as distinct from unprofitable research projects, and to create knowledge that *fits* dominant understandings of the world (see e.g. Gutting 2019).

This is most clearly demonstrated in discussions about responses by scientists to prematurity in scientific discovery. Most closely linked to