Review Articles

Return to the Heart of Cities

The Social Construction of Ancient Cities, edited by Monica L. Smith, 2003. Washington (DC): Smithsonian Books; ISBN 1-58834-098-8 hardback, £27.94 & US $45.00, xiii + 320 pp., 32 ills., 9 tables

Bruce G. Trigger

The goals of this collection of papers are to examine the roles that ancient cities played for their ordinary inhabitants and the complexities of their formation and survival. In both her introduction and substantive essay, Smith describes ancient cities as a new social order characterized by concentration (see also Southall 1998, 8–9) and specialization. Cities served as foci for complex social networks that were used to identify, enhance, and project social statuses and that generated collective beliefs and discourses, as well as a built environment, that promoted consensus about long-term collective goals. While Smith claims that an active interest in how ancient cities functioned has been limited mainly to the past decade, it was already present in Paul Wheatley's celebrated *The Pivot of the Four Quarters* (1971) and in Robert Koldewey's massive stratigraphic excavations of Babylon that began in 1899.

The papers in this volume share a generally cognitive-processual approach rather than a constructivist orientation, even if their authors are not always able to reconstruct the cognitive aspects of urban behaviour as convincingly as they wish to do. George Cowgill surveys the architecture and iconography of Teotihuacan in order to better understand how that city's inhabitants regarded it; Jerry Moore invokes Chimu mythology to explain the apparent social exclusiveness of the upper classes of that civilization in both life and death; and Roderick and Susan McIntosh utilize modern Mande religious beliefs about their landscape to explain aspects of urban settlement at Jenne-jeno in the first millennium AD. Kathryn Keith examines the differing roles played by state and neighbourhood in shaping the layout of Mesopotamian cities in the second millennium BC; Smith how South Asian rulers exploited the supra-neighbourhood use of social space as a cost-effective way to demonstrate and enhance their own power; Jason Yaeger the role of ritual in creating an 'imagined community' that united the urban and hinterland components of a small Classic Maya kingdom; and Chen Shen the growing tension between state-administered and private production in an Eastern Zhou city. Stephen Houston *et al*. consider the role played by 'moral authority', in the form of a social covenant between ruler and ruled, in holding together Classic Maya states; Christopher Attarian the involvement of ethnicity in the formation of urban centres in the Chicama Valley, Peru; and Melinda Zeder relations between food and social class in early urban societies in northern Mesopotamia. Geoff Emberling uses evidence from Tell Brak to argue that urbanism developed simultaneously in northern as well as southern Mesopotamia.

Houston *et al*.'s paper, examining how concepts of moral authority may have imposed limitations on the behaviour of high and low alike, is especially interesting. The authors are reacting against what they perceive as undue emphasis on factionalism, resistance, competition for loyalty, and exploitative élites in archaeological interpretation and too little investigation of factors promoting social cohesion. Their thinking appears to be moving in the same direction as my own arguments about how religious concepts provided 'constitutions' for early civilizations (Trigger 2003, 472–94). This sort of approach, while acknowledging the important role played by beliefs, avoids attributing to such ideas the autonomous powers that they are accorded by theocratic explanations, such as those supported by Maurice Godelier (1986, 159–61). I do not, however, find evidence to support Houston *et al*.'s claim that the political significance of 'moral authority' diminishes in early civilizations as the size of polities increases.

The McIntoshes seek to trace the origins of many features of West African cities that persisted into modern times. Their work has helped to reveal the long-denied distinctiveness and creativity of West

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African civilizations. Yet both the Shang Chinese and Yoruba cultures demonstrate that a lack of surviving monumental architecture does not prove that such architecture did not exist. While the large, stamped-earth palaces of the Shang and Yoruba ceased to exist as standing structures soon after they were abandoned, Shang stamped-earth royal enclosure walls and early Yoruba city walls have survived. The Yoruba also demonstrate that strongly heterarchical political arrangements do not necessarily signify the absence of a class hierarchy protected by political coercion. While the McIntoshes rightly question the 'hierarchy as adaptive' explanation of emerging social complexity and are very judicious in their claims, there is the danger that advocates of more radical forms of relativism may read more into their claims than is warranted.

Most papers in this volume are explicitly grounded in sociocultural theory. Yet these theories do not display overarching unity; instead they represent a selection of what is currently available from the social science hypermarket (Chippindale 1993). Welcome evidence of a rising level of critical self-consciousness is the admission by several contributors that available theories are insufficient to deal with the questions they wish to address. The McIntoshes point out the pressing need to find ways to test their propositions about how various culturally-specific beliefs may have promoted the development of early African urbanism. The editor and various contributors also draw attention to the vastness of urban sites and how little we can hope to learn about even the most extensively excavated ones. They differ, however, about the extent to which this limitation may restrict the understanding of ancient cities.

A number of papers demonstrate the pervasive, often subliminal, influence of the ideas of Mircea Eliade. Eliade based his generalizations about religious beliefs on his studies of shamanism among the indigenous peoples of Siberia. While no independent effort has been made to determine systematically to what extent his findings apply elsewhere, his concepts and terminology have deeply influenced the understanding that archaeologists have of the religious beliefs of premodern cultures around the world. As a result, it is very hard to know to what extent Eliade's ideas are useful for understanding the religious concepts of early civilizations and to what extent they are misleading. David Keightley (1978) and Robin Yates (1997, 82) have cast salutory doubts on the widely-held belief that ancient Chinese kings functioned as shamans.

Another shortcoming of some papers is failure to combine enough sorts of approaches to deal effectively with specific problems. Attarian's use of pottery styles to investigate how ethnicity was affected by the development of urbanism in the Chicama Valley is compromised by his failure to consider the changing economic and social contexts in which pottery was produced and distributed. A more integrated understanding of sociocultural theory is needed to reduce undue selectivity and wrong choices in theoretical approaches.

In the Introduction (there is no concluding chapter) Smith makes several general claims that accord poorly with the substantive essays. She argues that recent anthropological research has demonstrated that, rather than being altered by the Industrial Revolution, both ancient and modern cities can be understood as similar results of a limited range of configurations that structure human action in concentrated populations. All cities must share certain characteristics to qualify as such, but the variability among the pre-industrial cities considered in these essays, as well as the changes in urban formations throughout history (Southall 1998), document great variability which it is important to understand. While Smith emphasizes internal factors shaping urban configurations, the McIntoshes and Yaeger regard cities primarily as specialized centres serving the needs of their hinterlands. Their view calls into question Smith's opinion that cities that evolve organically are more 'successful' than 'disembedded' or 'planned' cities created within larger political units. Smith dismisses the concept of city-state as perhaps being a contradiction in terms. No attention is paid in this volume to the extent to which cities may have evolved differently in dissimilar political contexts, such as those provided in early civilizations by city or territorial states.

Smith maintains that the first cities evolved prior to states and only later became incorporated into them. The basis of this claim is definitional. Smith regards only large regional polities as states. Many anthropologists and political scientists accept as states all polities in which social control was not based solely on public opinion. G.M. Foster (1960–61, 178), for example, maintained that any stable community with more than about 1500 inhabitants required some form of executive representation and coercive control of individuals unwilling to obey orders; hence such communities had, or were evolving, state forms of government.

Having written a comparative study of early civilizations (Trigger 2003), I am keenly aware of the

limitations of single-authored comparative investigations. Chief among these is that no one can hope to acquire comprehensive, expert knowledge of all the examples being compared. Yet, while multi-authored studies are produced by specialists who are better informed about individual cases, the comparative analysis often tends to be less intensive and penetrating in such works. Under ideal conditions, the authors of such studies would engage in detailed individual comparisons of all their contributions, followed by a plenary examination of the concepts, theories, and data that structure the work as whole. Yet in practice the orange is rarely squeezed dry. Without such detailed analyses, these shortcomings can be avoided only by addressing clearly-defined and carefully-delineated questions. In the book being reviewed, individual contributions stand on their own.

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Historical Traditions and Darwinian Theory

Genes, Memes, and Human History: Darwinian Archaeology and Cultural Evolution, by Stephen Shennan, 2002. London: Thames & Hudson; ISBN 0-500-051186 hardback, £19.95 & US$34.95, 304 pp., 47 ills.

Herbert D.G. Maschner

In the last 20 years there has been an substantial increase in the number of publications that seek to demonstrate the important role Darwinian theory can play in understanding the past. Some have taken a rather specific slant such as the evolutionary psychological approach of Steven Mithen's *Prehistory of Mind* (1996) or Michael O'Brien's and R. Lee Lyman's emphasis on what they term evolutionary archaeology (e.g. 2000), while others, including my own *Darwinian Archaeologies* (1996a), have been more eclectic, emphasizing the diversity of approaches in utilizing Darwinian theory in archaeology (see also Barton & Clark 1997; Hart & Terrell 2002). But a true synthesis of approaches had not, until now, been attempted so it was with great anticipation that I received Stephen Shennan's *Genes, Memes, and Human History: Darwinian Archaeology and Cultural Evolution*.

At first glance, the title is a bit misleading. There is very little in the book about memes, and discussions of genetic variation play a minor role and are used mostly as examples of evolutionary processes. What this book is actually about is human history and how it can be better understood if one takes a Darwinian perspective. It is in this arena that the book succeeds very well. Building on the concept of memes by looking in detail at various factors influencing cultural inheritance (founded in the many works of Boyd & Richerson e.g. 1985), Shennan demonstrates how critical a Darwinian approach to the past can be for understanding everything from culture history to population growth, subsistence, male-female roles, and warfare. The foundation for his approach is in recognizing the underlying sources of variation in the transmission of cultural knowledge and in understanding the role of history and contingency in the transmission process.

At first glance, some archaeologists might argue that many of the topics where Shennan is emphasizing a Darwinian approach have already been

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an important part of archaeology for years without a Darwinian theme, such as culture history or resource extraction. But Shennan goes beyond our traditional use of such themes and seeks an underlying explanatory framework for them. So culture history becomes not just a discussion of artefact change through time, but rather a detailed investigation of the nature of artefact lineages and phylogenies with the attempt to understand the processes that either maintain homogeneity or introduce variation.

Throughout the book Shennan often returns to concepts such as efficiency and optimization, but they are emphasized in his discussion of evolutionary ecology and subsistence. Building on earlier archaeological examples of foraging theory by Arthur Keene (1981), Michael Jochim (1981), and many included in Winterhalder & Smith's first major volume (1981), he notes that foraging peoples tend to maximize their return rates in harvesting resources. That is, natural selection would have selected against behaviours that were highly inefficient and selected for behaviours that were more optimal. He emphasizes that while archaeologists most often apply evolutionary ecology to hunter-gatherer prehistory, it applies equally well to agriculturalists and Shennan provides examples as to how this works. He emphasizes an important point in optimization studies; that one must use these approaches as models, not fact. If one finds that the people under investigation deviate significantly from a strategy expected by evolutionary ecology, then that is often more interesting than if they match the model perfectly. One area which is generally ignored in evolutionary ecological studies, and an area not mentioned in this book, is socio-political optimization. It has been found among many more complex hunter-gatherers and village-based agriculturalists that foraging efficiency is often sacrificed for socio-political efficiency, which could have a very selective advantage in large population aggregates (e.g Maschner 1996b; but see also Ofek 2001). But here Shennan emphasizes economics not politics and makes good points on why an evolutionary ecology of the subsistence economy is critical.

Warfare and competition are important themes that surface a number of times in the latter half of the book. Shennan uses warfare to introduce the concept and possibility of group selection ideas. This is the only part of the book I found a bit confusing. While this is an on-going area of discussion, I have not seen a single example of group selection that cannot be reduced to individual motivations, including all aspects of cooperation, alliance, altruism, and ultimately, conflict. While the evolution of cooperation was one of the most important developments in the prehistory of warfare (Wrangham & Peterson 1996), individuals go to war because they expect it to improve their own, or their families's, political, social, economic, or reproductive status. Group selection might play a role in discussions of defence in times of war, but again, kin-selection would probably have a greater impact than any group-oriented processes. The debates on this topic will certainly continue for some time.

It is in the chapter on warfare that Shennan brings together many of the topics addressed in previous chapters including population growth, foraging efficiency and ecology, status and male–female relations, and the evolution of property. Using a number of case studies, he shows that when there are upheavals that create problems in one or more of these areas, conflicts often arise. Through these Darwinian approaches, he argues that ecological problems often lead to conflicts because of decreasing foraging efficiency, changes in population structure, or changes in cultural dynamics. What Shennan does not address, and an area ignored by many of the materialists in the US (e.g. Brian Ferguson in numerous papers), is that warfare often occurs when the combatants could get along just fine. In all of the cases Shennan presents as examples, there is little evidence of actual resource stress, that is, there are enough resources to go around. The problem is that they are unevenly distributed. So in the case of limited water sources or limited terrestrial resources along the Santa Barbara Channel (Kennett & Kennett 2000; Lambert 1997) there is plenty of water for everyone, but there is no patience to live alongside a bunch of people who are considered a different group. If they really wanted to, they could all live around the few water sources and be peaceful, but they choose warfare over peace. Using Shennan's own approach, it must be that warfare provides more benefits, at least for the winners, than does maintaining peace. If this is the case, then imbalances in the ecological world are just one symptom of warfare, not an underlying explanation.

Shennan makes it clear in the introduction that of the several ways that archaeologists use Darwinian theory to understand the past, evolutionary psychology (e.g. Barkow *et al.* 1992; Pinker 2002) is not to be addressed in this book. I found this interesting because many of the premises that Shennan is working under, and many of the assumptions he makes about human behaviour, such as risk assessment and optimization, are a direct product of our cogni-

tive development. But in this book the focus of investigation is on how selection acts upon decisions that come from the end results of this cognitive development, not on the history of the brain itself. Given the topics discussed in this work, this is perhaps a necessary omission and one that does not detract from the overall synthesis.

I have one significant complaint with this book, and it has nothing to do with Shennan's excellent work. It is my general dislike of endnotes, which I find frustrating. The process goes thus. One reads a particularly interesting passage and at the end there is a number. So, one flips to the back of the book, but then realizes the current chapter number is unknown, so one must go back into the book to find which chapter is being read, then back to the page one was reading because the note number is now forgotten, then finally, armed with both the chapter and the endnote numbers, it is to the back to find out what other interesting tidbit of information might be found. But this is not the end, because now one must go to the bibliography to see the complete reference. It nearly doubles the time necessary to read the book. In fact, if university students follow the optimization ideas nicely described by Shennan, they will not only never read the footnotes, but they will then never know the authors of some of the most important papers in evolutionary theory, which is a terrible tragedy indeed.

But leaving this structural complaint behind, this is an excellent, timely, well-written, and wonderful contribution to Darwinian theory in archaeology. As can be seen from this review, these chapters stimulated my thinking on a wide range of topics, many of which will certainly be areas of lively discussion at national and international meetings for many years to come. I highly recommend this book to all archaeologists, whether one claims a Darwinian mantle or one is of a more Post-Modern persuasion because it will encourage new areas of thought, promote new arenas of research, and will open novel and exciting realms of investigative possibilities for all theoretical interests.

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Real-time Maya

The Fall of the Ancient Maya: Solving the Mystery of the Maya Collapse, by David Webster, 2002. London: Thames & Hudson; ISBN 0-500-051135 hardback, £19.95 & US$34.95, 368pp., 84 ills.

Vernon Scarborough

The lure of the ancient Maya to academic and non-academic audiences was demonstrated over a century and half ago with the wide readership of *Incidents of Travel in Central America* which was followed by *Incidents of Travel in Yucatan*, both authored and illustrated by Stephens and Catherwood respectively. Although accurate and encompassing treatments of the Lowland Maya are now a recurrent and stimulating addition to accessible and lasting social history, books like Stephens and Catherwood's — in part published for a broad audience — were not resurrected until the early 1950s by the influential and erudite archaeologist Sir Eric Thompson (but see Morley 1946). Thompson's scholarly writings established the baseline for an understanding of those 'mysterious' people of tropical Central America — both for the academic community and for a broader public. Thompson championed a rather aberrant view of the ancient Maya as a society based on peaceful stargazing — in part through his strength of will— convincingly articulated in several well-known books, *The Rise and Fall of Maya Civilization* (1954) and *Maya History and Religion* (1970) perhaps the most widely read.

In 1973 a pivotal meeting occurred at the Maya ruin of Palenque at which several key iconographers and epigraphers collectively demonstrated the true potential of the glyphic record preserved in stone at so many Lowland Maya sites. This breakthrough for Maya archaeology scientifically challenged many of Thompson's suppositions. Two of the principal scholars at the round table were Michael Coe and Linda Schele who together questioned aspects of Thompson's work through their own persuasive and accessible books and articles. All this was good for the rapidly-developing field of Maya studies, with other accomplished scholars adding to our understanding. Nevertheless, after several influential books a certain 'magic carpet ride' view of the Maya began to pervade aspects of the discipline (cf. Marcus 2003, 85). Some of these authors seemed to intimate that they were personally connected to past kings and princes in some cosmic mix of time and space, a perception that distanced many 'dirt' archaeologists from their art history and epigraphically-literate companions. Although a new emphasis on dynastic history and the written word revolutionized our understanding of the Maya, these data sets frequently neglected the many other material underpinning archaeological inquiry. Some of these books acquired trappings of authority, not unlike Thompson's earlier hubris, and declared truth for a rather skeptical scientific audience.

David Webster's book is one of the first full-length texts written for a generalized readership that challenges the trend noted above. It has the potential to bring its readership back to a more grounded view of what we actually know about the ancient Maya. Well-written and organized, the book provides a complete overview of the ancient Maya — within the limitations of any account attempting to cover an entire civilization. Fundamentally, the volume addresses the Maya Collapse of the ninth century, a highly-complex social phenomenon. By defining his interest and the greater problem of social collapse, Webster skilfully identifies who the Maya were and what factors led to our somewhat murky understanding of their demise. Along the way, we are treated to a well-articulated picture of current scholarship in the Maya area.

Although I liked this book and it will do much to balance an imbalance in Maya studies, both at the popular as well as the scholarly level, it carries along a set of controversial premises about the ancient Maya embedded in the highly influential work of William Sanders and his many students. Drawing on Fox's (1977) weak state versus strong state dichotomy, a Mesoamerican Great Tradition of early statecraft is identified (Sanders & Webster 1988). The nucleated and planned cities of Teotihuacan and Tenochtitlan provide the model for Mesoamerican urbanism by commanding the strong state, while the highly-dispersed residential occupation and ungridded layout of Maya 'cities' demonstrate the weak state or 'regal-ritual order'. But perhaps typing the appearance of these different Mesoamerican cities is less meaningful if we are really examining different socioeconomic and sociopolitical structures undergirding ancient states. The proposed rigid social hierarchies associated with classic definitions of statecraft may not provide useful analogies for understanding the semitropical state (Scarborough 2000; 2003).

Although Webster alludes to the term heterarchy in his book, it is not developed. The ancient Maya were a complex state order drawing on the

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highly-diverse but dispersed resources available in their wet-dry forest environment. These ecological facts conditioned an economic adaptation that in some regions of the Lowlands resulted in the development of small 'resource-specialized communities' (Scarborough & Valdez 2003). Although these communities were frequently capable of autonomous, subsistence-level survival, they were linked to other similar communities by the products they did not produce well — resources like stone tools, varieties of pottery, textiles as well as more exotic items. The well-reported lithic tool production site of Colha in northern Belize is an example of a preserved resource-specialized community (Shafer & Hester 1983). The significance of sites like Colha in the Maya area is that they reveal a heterarchical interdependency between communities within a region. The much larger 'cities' of Tikal or Calakmul, or even the next tier of sizable centres like Rio Azul, Palenque, or Copán were likely great centres for the exchange of goods and services, not just theatres for ritualized performance, linking the resource-specialized communities together. The significance of this economic organization for the semitropical Maya is that it explains aspects of their dispersed settlement adaptations associated with truly sizable populations as well as their political order. It may also hint at the manner in which the Southern Maya Lowlands fell apart in the ninth century.

Conventional wisdom suggests that a suite of widely-repeated factors spelled the end of Classic Maya socioeconomic and sociopolitical organization, wisdom arguing that the collapse was a selective mix of these causes with one or two representing the catalyst for the downward spiral. Webster takes the conventional approach, and through a well-articulated statement using current data, he dismisses most of the laundry list of causes for social collapse. Much of his effort is devoted to challenging the recent spate of articles, and especially the book-length examination of the Maya Collapse by Gill (2000), that support the 'mega-drought thesis' for Lowland Maya abandonment — an argument that has received considerable support from the biophysical sciences. Although Webster attempts to debunk the argument, one I too find dissatisfying, he is unable convincingly to eliminate it. A different tack for examining the collapse suggests that the social structure of the work force based on the circulation of labour, land use, and the resources extracted from the environs resulted in an economy based on the resource-specialized community. When these communities were deemed less significant in the political as well as economic life of society, when cities as sizable as Tikal and Calakmul grew to the status of 'super states' and left the heterarchical exchange networks of goods and services to lesser regions or centres, the social underpinnings of the ancient Maya became acutely threatened. From my vantage, the Maya Collapse cannot be explained by overpopulation leading to environmental degradation or even climate change forcing a much reduced carrying capacity from the landscape. These factors were surely influential, but it was the successful social structure predicated on the interdependency of resource-specialized communities that provided the flexibility to overcome the many disruptive mechanisms that challenged the Maya for centuries before the great fall. The collapse was likely precipitated by a fundamental organizational change in the centuries of resource-specialization operating in the hinterlands. The 'super states' were failed experiments that broke the heterarchical exchange of the Lowland Maya. From my point of view, it was precisely the introduction of steeply-pitched hierarchical command structures that spelled the demise of the socially-complex, heterarchically-organized, ancient Maya.

Webster has produced a fine volume that captures the limitations and accomplishments of the ancient Maya. It is the best book-length assessment of this civilization now available. Although I disagree with several of his theories, he constructs his arguments well and informs his readership when they are assessing fact or mere speculation. The book succeeds less in explaining the fall of the Maya and more as a fair-minded interpretation of who the Maya were.

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Barbed Wire was an Invention to Control American Cows: What is Required in a Neo-Darwinian Theory of Cultural Behaviour?

Darwin and Archaeology: a Handbook of Key Concepts, edited by John P. Hart & John E. Terrell, 2002. Wesport (CN): Bergin & Garvey; ISBN 0-89789-878-8 hardback, £44 & US$67.95; ISBN 0-89789-879-6 paperback, £18.50 & US$21.95, xviii + 259 pp.

Roland Fletcher

The current debate about the role of evolutionary theory in archaeology has continued inconclusively for more than twenty years since the redefinition of the issues by Dunnell in the 1970s and 80s, represented by his classic paper in 1980. In 2002 Hart & Terrell have sought to clarify the debate and bring together the issues of a Darwinian approach in archaeology by inviting eighteen authors to review the key concepts of adaptation, biological constraints, cause, classification, complexity, culture, descent, history, individuals, learning, models, natural selection and population. Each chapter summarizes what the concept means today to archaeologists; why that concept is important to the discipline; and what actual case studies show about the use of the concept. The editors have deliberately sought a spectrum of opinions and intellectual postures, making the book a valuable and succinct overview of a range of what is and has been said about Darwinian theory in archaeology.

Read another way the book is also a crucial guide to what has not been said and has not been resolved. For, as Feinman remarks in his introduction, even though evolutionary studies have been closely intertwined in anglophile archaeology and anthropology for about a century and a half, the '. . . relationships between these intellectual domains and the future agendas for them remain unresolved . . .' (2002, vii). One possibility is that this problem arises for a Darwinian approach because terminology is not agreed — a failing which Hart and Terrell recognize and are seeking to remedy as well as they can. The harsher claims are either that Darwinism is inappropriate for the study of culture, as hard-line post-processualists might argue; or that there is a profound and widespread conceptual fog due to futile disputes, combined with a lack of core propositions that are essential to the logic of any Neo-Darwinian conceptual position. Notably absent from the book, for example, are chapters on variation, uniformitarianism, indeterminacy and hierarchies of scale.

Context

The purpose of this commentary is to outline briefly the issues, omissions and needs of a Neo-Darwinian logic for the study of cultural continuity and change. In summary:

- a Neo-Darwinian logic is necessary for culture because culture possesses the same overall characteristics of change and continuity as the biological domain;
- the specific processes of cultural change and continuity are not the same as or reducible to those of biology even though the logic for understanding them is necessarily the same;
- that no theorist, however eminent, in another discipline can offer the solution to how we might construct a theory of such processes; we have to do the job ourselves;
- there are several core propositions which must be clarified if discussion is to be coherent.
- we have to engage with the issue of Neo-Darwinian logic across the entire spectrum of archaeo-

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logical enquiry, not by selectively focusing on small-scale societies.

A Neo-Darwinian logic is necessary for culture

People make mistakes both as individuals and communities, with grave political consequences for themselves and others, and with dire environmental consequences which harm themselves and entire ecological systems. The specifics of human behaviour are not, therefore, determined by any parameters of operational balance whether in social life or the natural environment. Instead we require a selectionist explanatory approach in which the internal factors that generate what individuals and communities may do operate in the short-term, independently of any external constraints. Social and environmental constraints only operate against what individuals and communities are trying to do. They do not define or delimit what we may try to do. Furthermore, all the cultural expressions of a human community, whether speech, acts or material products, display variation. They vary at any one time and they vary over time with successive replication. However, they also display continuity, a recognizable similarity through time. Cultural expressions display a heritage effect that is recognizable in repeated acts and enduring physical forms. Culture, like genes, is stabilized by physical and chemical properties of the universe. It is also the case that different kinds of cultural practice become differentially more common and rarer over time like biological phenomena.

Cultural phenomena possess the same broad spatial and temporal characteristics as biological phenomena and should therefore be amenable to description and explanation in terms of the same logic. In addition, the two classes of replicable phenomena must necessarily be describable in terms of the logic of Neo-Darwinian evolution because there is an evolutionary selectionist relationship between them. Over the past three or four million years human behaviour and physiology have become less and less subject to biological selection and more subject to the operation of culture. For instance, at least over the past 30,000 years, clothing has replaced physiological evolution as the overall means to allow humans to colonise new environments, including inter-planetary space.

The uniqueness of cultural replication

In the terms of Neo-Darwinian theory, culture evolution cannot operate in the same specific way as biological evolution nor can the former be reduced to the latter since otherwise culture could not have become more common and more substantial over time. Culture is a phenomenon that was vanishingly rare three million years ago and now re-models entire landscapes. There has clearly been a profound proportionate selectionist impact on the occurrence of culture.

There is a strong inclination to see culture as different from biology because of human intentionality and rationality and the use of speech. But culture was expanding and proliferating long before those attributes of modern humans can be readily recognised. What is profoundly different about the transmission and replication of culture is that, unlike genetics, it contains more than one generative code system (Fletcher 1996). As well as the patterning of human actions, our ancestors made patterned material items at least two million years ago. The patterns are recognizably free of any knowledge of what the makers did or did not think about those objects. Those items became an independent variable because they were durable. The things began to be an assemblage of signals in their own right. For instance, stone tools left on the ground signal the presence of hominids to other hominids. Once speech was added, humans had electro-chemical codes for culture in their brain; codes of sound in their speech as in syntax and grammar; codes of actions in what they do, as is recognizable in the non-verbal signalling of kinesics and proxemics; and they produce and engage with codes of form and space in material items. These codes vary from shape specification e.g. in ceramics, to spatial layout e.g. in settlements. The replication rates of the material can also range from small objects which are rapidly replaced to huge structures which endure for centuries.

The differing replication rates in these various expressions of culture are profoundly important because they inevitably create non-correspondence within the assemblage of community. It is a consequence of replication that slight divergences in copying lead to change over time. More rapid replication leads to more change. Those phenomena which are rarely replicated will change least. The power of culture is therefore that its multiple codes lead to incessant divergence between verbal expression, acts and material contexts leading to incessant contradictions and recombinations. We see this in many ways, ranging from the wondrous expression 'do as I say not as I do'; to the all-too-common divergence between our intent and the outcome of what we say, do or make. It follows that simply on the physical grounds of differential replication rates a cultural

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assemblage is an incessant inconsistency of declarations, acts and material. This is a profound generator of change and the genetic system possesses nothing like it.

It is ironic then that a powerful tradition in the 'reading' of culture marginalizes the material as an epiphenomenon of acts and ideas and ultimately reduces culture to a suite of ideas — in effect to a pseudo-genetic genotype of disembodied concepts. The assumption is that ideas cause acts which produce things. Things are treated merely as a reflection of something less tangible but more important. What this neglects is that in the long term the physical context of hominid communities predated and provided the context for the evolution of modern human cognition and speech. It also neglects that people learn their culture within physical contexts and live with contradictions of action and speech. There is no 'mind-set' of communal views in the heads of the people in a community. What the 'ideas' approach does is to collapse actual variation within and between collections of thoughts, attitudes and practices into disembodied Platonic ideals. A Darwinian approach was precisely the logical path that took biology out of the Platonic trap of the 'ideal' horse and it is Neo-Darwinian theory which gave us the conceptual tools to envisage the dynamics of biological variability. The same logic can therefore serve to systematically direct attention to non-consistency and variation in suites of cultural expressions.

Archaeology must build its own Neo-Darwinian theory

A brief but necessary point to emphasize is that the nature of culture is and needs to be rethought within archaeology. We cannot therefore afford to behave as if great outsider theorists, whether in history, anthropology, art theory or biology, can provide us with a conceptual template. We have already been blindsided by the version of meme theory that social theorists have transmuted out of Richard Dawkins's original definition of the meme. His articulation of the concept has turned out to be extremely vulnerable to resumption by an 'ideas' approach to culture and has serious logical flaws (Hull 2000, esp. 58.). This is irritating because ironically, in a very meme-like way, the term 'meme' is really here to stay as the label for the cultural equivalent of the gene. We will have to redefine it so that the components of material form are properly understood as memes and the term incorporates a proper description of variation.

Another instance is that although I have the highest regard for Steven J. Gould as a biological evolutionist and delight in his essays, his persistent view that culture is Lamarckian (e.g. 1991, 222) is untenable. Perhaps someone with a great respect for education would be vulnerable to the idea that we transmit experience reliably and consistently through learning. But whatever the role of learning and its value to human beings that does not make culture Lamarckian. It cannot be, as Gregory Bateson's appraisal of the consequences of Lamarckian evolution ruthlessly demonstrates (1972, 242). If change can occur in an assemblage of forms, whether cultural or biological, because external circumstances impact directly on replication the result would be a myriad of variant alternatives, each diverging on its own path of unique experience. No coherent heritage effect can be derived from a Lamarckian process. If, by contrast, any arbiter internal to the replicating system intervenes to maintain heritage continuity, e.g. by deleting an attribute generated by external influence, the process of replication is not Lamarckian. Learning needs to be systematically divorced from the notion of Lamarkianism and restated in terms of its partiality, errors of bias and ignorance and the collisions between learned short-term advantage and potentially disastrous longer term consequences.

Core propositions to be clarified in a workable Neo-Darwinian logic for culture

The terms outlined earlier in this commentary lead to several straightforward theoretical consequences which can now be briefly reviewed.

A Neo-Darwinian cultural theory will need to use a hierarchy of scales of process and explanation (Fletcher 1995, 43–65, 233–4). This is required because selection involves the impact of a set of conditions e.g. the physical environment, on the survival of a population of actors whose replication rate and demise rate is faster in aggregate than that of the environment. It is the boundary conditions of ecological balance and the natural events that derive from long slow and huge natural processes which select against what animals do in an environment. Likewise the workings of a community can select against the behaviour of a specific individual through social censure and assault.

The second requirement is a concept of indeterminacy in the relationship between operations occurring at different magnitudes in a hierarchy of scale (Fletcher 1995, 43–4). Selection as a process specifies that large-scale phenomena do not determine smaller-scale ones. Environments do not make

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people do what is ecologically necessary. Instead environmental parameters serve to ruin things and wipe out actions and the people who do them. There is no determinacy. The different levels in a hierarchy of scale do not causally connect directly to the adjacent scale. Post-processual contextualism is precisely what selectionism specifies. We need contextualism to understand why a community does what it does independent of the external environment. We need another larger-scale view to understand the consistencies of the outcome of what they do. It is these patterns of outcome which we see repeatedly in the archaeological record.

The third requirement is therefore a coherent theory of uniformitarianism (Fletcher 1995, 230–31). In the 1960s Gould showed that the use of the concept involved a contradiction and confusion between two different propositions. The first, substantive uniformitarianism, is the familiar one but is logically invalid. Substantivism mistakenly ascribes uniformity to continuity of specific forms and associations and rates of change. Instances are the assumption that evolution proceeds at a constant rate or that because particular combinations of material and social phenomena occur repeatedly in the present that association can therefore be extrapolated into the past. The logically valid uniformitarian proposition actually refers only to constancy of operations or boundary conditions. An instance of operational uniformitarianism is the workings of the genetic system which operates in the same way over time but repeatedly generates different forms. The uniformity is in the process not in the specific products. There is then also a consistent relationship over time between the operation of genetics and the boundary conditions set by the external environment. We call that relationship Natural Selection. What is required for the study of culture is to understand the replicative processes for each form of cultural code expression, i.e. speech, action and material entities and the relationship between each and the boundary conditions which act as the selective agency impacting on it.

The fourth requirement is an understanding of the multiple code expressions of culture and the non-deterministic relationship between them (Fletcher 1996). The critical implication is that the material has to be understood as an agency in its own right and not just as a epiphenomenal derivative of thought and actions. The material, as we are now brutally aware, is a selective agency impacting on the active component of human behaviour. It is an actor without intent, able to inflict terrible harm, as the history of twentieth-century warfare has shown (Schofield *et al.* 2002). The impact of the material has become starkly apparent with the scale of production that became possible with the Industrial Revolution but that is just the most overt manifestation of a relationship to sociality which has presumably existed for millennia. Houses and settlements, for example, are not just a convenience to be altered at whim, merely reflecting social organization. They must instead be viewed as potentially-inertial structures that obstruct and inconvenience active social life. This is not to doubt that they are initiated by human action, only to note that their inertia can lead to effects that the human occupants neither planned nor desired.

The forms of houses and settlements also carry spatial signals about the way space is to be organized. The actual spaces act as the educators of the young, training them into the consistencies of space which their community uses. Material forms are therefore signal carriers not of social meaning (that is carried in the brain and in speech) but of metrical repetition. This is of significance for the fifth major requirement of a Neo-Darwinian theory of culture — the resolution of the group selection issue which Leonard & Jones rightly perceive as a 'new hotbed of inquiry in the coming years in archaeology' (2002, 227, 229). The vexed issue was one of the more brutal intellectual wars in biology in the 1960s and 1970s. In essence, the Wynne-Edwards group selection concept, that selection operates selectively on the behaviour of populations, was decisively crushed in biology by the Lackian critique (Sterelny 2001, 81–3 and see Gould 2002, 646–52). The issue has recently revived, however, in terms of kin-selection (Sober & Wilson 1998, referred to by Leonard & Jones 2002). What we must beware is an assumption that the biological proposition of kin-selection is what we need in archaeology. While I have no doubt that kin-selection operates in human biological populations that is not the central Neo-Darwinian issue of culture. The core problem for group selection is that it is always liable to infringe the operational necessity that each individual carrier of variation must itself be liable to differential selection. The way out of this trap in the study of culture may be to recognize that what we mean by group selection is actually the impact of selection on communication systems, i.e. on the assemblages of signals which are essential to the functioning of a community. In archaeology we can see the suites of non-verbal spatial and shape signals on which communities depend and we can see them change over time. The interesting possibil-

ity exists that archaeology could make a major contribution to the analysis of what is currently concealed under the label 'group selection', by looking at the assemblages of material signals within which human communities live. This leads to the further interesting possibility that the natural taxon of culture, i.e. the equivalent of the biological species, is the settlement, the experiential node of community life. Note that a 'culture' as the unit of study has been problematic because it does not quite appear to function as a single operational entity. Perhaps a 'culture' is the equivalent of the biological genus, not of the biological species.

Neo-Darwinian logic must be applicable across the entire spectrum of archaeological enquiry

The key implication of a Neo-Darwinian approach to culture is that it has to engage with materiality and with the capacity of the material to impact on social life across the entire spectrum of cultures. We need to encompass the transmuting of barbed wire from an American cow manager to the ally of artillery in the industrial warfare of the twentieth century, and the agent of totalitarianism and genocide (Krell 2002; Razac 2002). The movement of material designs across cultures needs serious attention because the emphasis of a Neo-Darwinian approach needs to be on the variability and frequency of occurrence of the material not just on the survival prospects of the human users. Culture as a virus needs to be taken seriously (Cullen 1996; Shennan 2002, 191–2). As Hogg (1999, 97, 102, 105–6, 175) has pointed out, after the Second World War significant portions of the defeated German weapons technology became the basis for future weapons, especially submarines, missiles and guided weaponry. The helmets of Western armies in the twenty-first century are also worth a look!

As yet the tendency has been for the discussion of Neo-Darwinian theory to reside in the study of small-scale societies. This is apparent among the authors in *Darwin and Archaeology*. So long as this tendency persists, Neo-Darwinian approaches will make little headway in archaeology, first because there is absolutely more archaeology to do in the field of Historical Archaeology and secondly because the moral issues of the relationship between materiality and social action are most overt in the very recent past and in the present. Global warming is the same class of issue on the scale of global ecology. To its credit archaeology is engaged in the debates about twentieth-century warfare, the impact of weapons technology, pollution and garbage. Neo-Darwinian theorizing can escape the risk of becoming a quaint ethnographic irrelevance by entering that arena.

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Trauma, Tedium and Tautology in the Study of Ritual

Bringing Ritual to Mind: Psychological Foundations of Cultural Form, by R.N. McCauley & E.T. Lawson, 2002. Cambridge: Cambridge University Press; ISBN 0-521-81559-2 hardback, £47.50 & US$65.00; ISBN 0-521-01629-0 paperback, £16.95 & US$23.00, xiii + 236 pp., ills.

Chris Knight

This ambitious volume is the sequel to an earlier work (Lawson & McCauley 1990) in which the authors 'launched the cognitive science of religion' (McCauley & Lawson 2002, ix). Adopting a linguistics-inspired 'competence' approach and assimilating ritual to the Agent-Action-Patient structure of propositional speech, they make a series of scientific predictions. Where it is the Agent who is 'Special' in the sense of 'closest to God', it is predicted that the Patient will participate just once in a vivid, memorable event. By contrast, where only the Action, Instrument or Patient is special — that is, where God himself is not responsible for what happens — we may expect performances to be impermanent in their effects and correspondingly repeatable. It is predicted, further, that the consequences of a Special Agent ritual will be reversible under certain conditions (as when a non-consummated marriage must be annulled). Reversibility is not predicted in the case of Special Instrument or Special Patient rituals. In the case of Special Agent rituals, finally, it will not be permissible to allow substitutions — only the agency of God can guarantee efficacy. By contrast, it should be allowable to make personally convenient substitutions of things, actions or persons in the case of Special Instrument or Special Patient rituals.

To test these predictions, McCauley and Lawson turn to Whitehouse's (1995) work among the Mali Baining of New Britain Island, Papua New Guinea. The local *Pomio Kivung* is a millennarian cargo cult whose followers devote themselves to placating deified ancestors. Once sufficient ritual purification has been achieved, the gods will arrive in the guise of white-skinned western scientists and industrialists. They will inaugurate 'the Period of Companies' — a period of affluence based on a western-style industrial infrastructure — before ushering in the 'Period of Government', whereupon the faithful will be freed from conflict, suffering, labour, death and reproduction.

When Whitehouse and his wife arrived to do anthropological research, it occurred to a young man named Tanotka that they must be the ancestors in question. When the couple commented innocently that the Cemetery Temple perhaps needed repairs, the alerted villagers immediately built a new temple. Breaking with the Christian-influenced mainstream cargo-cult — with its tedious focus on verbal indoctrination and ritual routine — they decided to celebrate by reviving songs, feasts and masked dances from traditional initiation rites. Confident that the world would now end, Tanotka's splinter-group ceased all labour in the gardens and killed every pig in the village. Following a feast, they constructed a roundhouse in which the sexes were collectively paired off. During the ensuing climactic nights it was expected that the ancestors would arrive within minutes. When this failed to happen, it was clearly because of everyone's half-hearted performance. To avoid upsetting the ancestors yet again, the faithful were prevented from stepping outdoors — even to relieve themselves. Following months of squalor and hunger as supplies ran low, a government health inspector finally arrived. He ordered demolition of the stinking roundhouse and commanded everyone to return to work. By now disillusioned, the cult members obeyed — and resumed participation in the mainstream religion they had earlier left.

McCauley and Lawson contrast the sermon-based, tedious Pomio Kivung religion with the traumatic revelatory rites of the splinter group. Why, they ask, do rituals throughout the world 'gravitate' in this way between the two 'attractor positions' of tedium and trauma? According to Whitehouse (1995), the constraints of human memory dictate that an infrequently-performed ritual must be correspondingly memorable — hence vivid and intense. McCauley and Lawson respond (p. 179): 'The ritual frequency hypothesis *cannot* account for the changes in the performances of the Kivung rites during the

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splinter group period'. Contrary to Whitehouse's predictions, *both* the frequency *and* the intensity of the new rituals *increased* as time passed. In place of the flawed 'ritual frequency' hypothesis, therefore, McCauley & Lawson offer their own hypothesis of 'ritual form'. This states that sensory pageantry will be intense when rituals assume Special Agent form — that is, when 'the gods are responsible for what happens'.

The 'classic rites of passage', note the authors (p. 121), 'are paradigmatic examples of . . . special agent rituals'. 'Typically', they continue, 'the rituals that mark entry into this world at birth, into the adult world during adolescence, and into another world at death are rituals participants go through only once'. Returning to Whitehouse's account, McCauley & Lawson note that the whole period of Tanotka's splinter-group *was* such a rite of passage. Not only were dances and masks from traditional initiation rites remembered and restored. More fundamentally, the *whole idea* was to be traumatically initiated into the next world. By contrast, those leading the tedious mainstream Pomio Kivung cult *explicitly prohibited* members from participating in *any* sort of initiation (Whitehouse 1992, 794). In the light of such considerations, McCauley & Lawson (p. 187) reformulate their 'pivotal' prediction:

> The ritual form hypothesis predicts that the increases in sensory pageantry in a ritual system (in response to the tedium effect) will inevitably become associated with special agent rituals, where CPS-agents [Culturally Postulated Supernatural Agents] or their representatives do something that they need only do once (such as inaugurate a new age).

As I pondered the implications of all this, I found myself nagged by a persistent question. If the authors are correct, would it not follow that 'Special Agent Rituals' would be better conceptualized in more familiar and less technical language — that is, as 'Rites of Passage'? Once this terminological restoration has been achieved, these authors' 'central puzzle' disappears. It becomes self-evident that a ritual tradition when experienced by the *out-group* ('novices', 'the unconverted') must *logically* differ from that same tradition when viewed from the perspective of the corresponding *in-group* (Knight 1998; 2002). To function effectively within any established in-group is to internalize what Bourdieu (1991) terms its 'habitus'. By contrast, becoming for the first time an 'adult', an 'ancestor' — or a member of the millenarian universal 'Government' — must entail a relatively traumatic initiation into an entirely new game. The assumption made by the leadership of the Pomio Kivung cult, quite clearly, was that the faithful were *already* initiated — everyone was supposed to *know already* who the ancestors were. The splinter-group's traumatic features, by contrast, stemmed from the realization that an entirely new game could be tried.

Cognitivism, as I have commented elsewhere (Knight 2000), can deal neither with politics nor with collective intentionality. Its congenitally Cartesian (Chomsky 1966) assumptions construct symbolic representations exclusively as *internal* states of the *individual* 'mind/brain'. It is on this basis that McCauley & Lawson approach a messianic Melanesian cargo cult aimed at restoring parity with the affluent west. They attempt to explain this and other products of global injustice not politically — but in terms of 'micro-processes operating at the psychological level' (p. 180). Ritual is examined as if in a bubble, cut off in a disembodied realm — beyond co-operation and competition, tenderness and violence, sharing and exploitation, trust and deceit, gender, sex, kinship, economics, politics and power. To conceptualize ritual in this way would have seemed, to a former generation of social anthropological scholars, quite unthinkable. That this book has been written and published at all is therefore testimony to the continuing corporate impact of the cognitive revolution which Chomsky did so much to inspire.

McCauley & Lawson feel no need to invoke Marx, Durkheim, Turner, Rappaport, Douglas, Bourdieu — or indeed any of their own scholarly field's ancestral giants. Impervious to the existence of 'institutional facts' (Searle 1996), these authors's psychological framework renders it impossible for them even to 'see' in-group/outgroup boundaries or the corresponding dynamics. McCauley & Lawson report the discovery that 'Special Agent' rituals — that is, rites of passage — turn out to be non-repeatable. They seem not to have realized that once you are initiated, it is *logically self-evident* that you don't need to go through that particular ritual again. The authors attribute such findings to internal micro-processes within mind-reading competence. In fact, however, to appreciate such logical correlations is simply to think things through. Why is it that initiation rituals — but not performatives accomplished by authorized insiders — are experienced subjectively as direct interventions by 'the gods'? The answer becomes self-evident when we reformulate the problem in social terms. No self-organized collective can afford to allow individuals to *admit themselves* to its internal life and associated contractual privileges.

Decisions of this kind must — for *institutional* reasons — remain 'in the lap of the gods'. As applications are duly processed and trials imposed, it is inevitable that those hoping for admission should feel at the mercy of forces beyond their control.

What of these authors's 'pivotal' prediction — namely, that 'sensory pageantry' will be most intense where God 'is responsible for what happens'. The circularity involved here is painful. Anthropologists have long known that the only way in which God's agency might *conceivably* be made palpable to a whole community would be through rituals of a certain kind — namely, those making God's agency *palpable* to that community (Durkheim 1965 [1912]). Again, McCauley & Lawson point out that rituals of the 'Special Instrument' or 'Special Patient' type — that is, repeatable moves made by insiders within an already established game — lack special procedures for revoking their own effects. Where there is no life-changing status transition to be reversed, in other words, procedures for such reversal appear not to be required. In this as in so many other ways, McCauley & Lawson predict that 'Special Agent Rituals' will be found packaged with an array of properties distinct from those packaged at the other pole. While the details are often indisputable, it is hard to see why any of this should qualify as predictive science. In short, the 'predictions' offered by McCauley & Lawson turn out to have the status only of tautologies. Only the authors' laboriously cognitive mindset and associated esoteric terminology could possibly have concealed from them this fact.

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Of Cannibals and Kings

The Cannibal Hymn: a Cultural and Literary Study, by Christopher Eyre, 2002. Liverpool: Liverpool University Press; ISBN 0-85323-696-8 hardback, £39.95 & US$59.95; ISBN 0-85323-706-9 paperback, £16.95 & US$26.95

Salima Ikram

Christopher Eyre's book is unusual in being a cultural interpretation of an ancient Egyptian text. He writes in his introduction 'My aim is an essay on literature as an artefact of cultural history, using this specific text as a case study' (p. 5). Generally, most analyses of ancient Egyptian texts focus on translating the text and then analyzing its grammar and word use, rather than trying to understand its cultural or social role. Granted that assessing ancient texts within their original contexts is not without its pitfalls, as Eyre acknowledges, he does an excellent job of using the text as a tool to elucidate and interpret different aspects of Egyptian society and culture. Through the vehicle of the 'Cannibal Hymn', he also provides a template for similar interpretations of other ancient Egyptian texts.

The 'Cannibal Hymn' is one 'spell' that is found

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within the larger group of spells that constitute the 'Pyramid Texts'. These texts are inscribed in the burial chamber of the king's pyramid from the end of the 5th Dynasty (2465–2323 BC) onward, and are designed to help the king ascend to heaven and become one with the stars, living eternally. This hymn was not used exclusively by royalty, save in the Old Kingdom. By the Middle Kingdom, nobles had appropriated many religious trappings that had previously been the sole prerogative of the king, including sections of the 'Pyramid Texts', most pertinently the 'Cannibal Hymn'. These texts ensured the equivalent of a royal Afterlife to anyone who could afford it. The 'Cannibal Hymn' has long intrigued scholars with its references to cannibalism, ritual sacrifice, sympathetic magic, and the final transformation of the king into a truly divine being. It describes the king feasting on different gods, and could well be interpreted as one of the earliest texts dealing with transubstantiation.

Eyre's *The Cannibal Hymn* is divided into 17 chapters, starting with an introduction and a translation of the text. The subsequent chapters deal with the textual transmission of the hymn, the reconstruction of the ritual that presumably accompanied the intoning of the hymn, and a discussion of its literary format and the whole issue of its performance, with regard to the placement of the text within the tomb's burial chamber. There is also a chapter that amounts to a 'lit-crit' examination of the text. Further chapters discuss the text in relation to funerary offering rituals, and analyze its literary form, by carefully dividing it into different parts that can be identified with the physical offering ritual itself. What might be regarded as the second half of the book, although it is not formally divided thus, concerns the reality of cannibalism, meat sacrifice, and meat consumption in ancient Egypt. The practicalities of meat offerings, including their acquisition and disbursement, the transition from living creatures to dead, the location of these activities, their distribution and consumption, and general issues of feasting are all addressed. The book finishes with an appendix of the hieroglyphic text of the hymn, in all its variants, and the usual indexes.

Generally, studies of Egyptian religious writings ignore the fact that these texts were probably recited and not just inscribed on buildings, or more rarely, on papyrus. Eyre stresses the fact that, for the ancient Egyptians, any hymns or prayers were reified once they were recited and, quite possibly, performed with accompanying actions.[1] This might hold especially true for the Cannibal Hymn, which evokes the ritual of butchering a bull. Butchered cattle were one of the most important parts of funerary offerings, both for royalty and nobility (the only economic groups that could easily afford to slaughter such an animal: Ikram 1995, 199–229). The recitation of such texts, over the years, in association with the performance of accompanying acts or gestures, thus represent an oral transmission in addition to a corpus of written texts. This might well account for variations in later versions of the hymn, and indeed variations in other texts that are passed down throughout the course of Egyptian history. Eyre does well to draw attention to the idea of oral transmission resulting in the modification and transformation of texts, as scholars tend to think of these as static documents that are passed down solely through written copies, rather than through an oral tradition with all the amendments and alterations that such a tradition implies.

The sections discussing the power of performance and the problems associated with the reconstruction of a ritual are valuable. 'The essence of the ritual lies in the integration of actions and words, performed together in a highly-charged context. Words without actions, like actions without words, would fail to achieve an effective ritual unity' (p. 25). Unfortunately, Egyptian religious texts lack 'stage directions' to explain how rituals were performed, although the texts' format does suggest a sequence for the ritual. The closest staging manual is to be found in the *Apis Embalming Ritual* (Vos 1993), to which Eyre refers. This has recently been used as a basis for an experimental reconstruction of the wrapping of an Apis bull (Gillam 2003). Although any reconstruction of a ritual and the sources of its inspiration can only be conjectural, these elements should be taken into account when interpreting ancient texts as they can usefully serve to give a fresh perspective on the text.

Eyre suggests that the basis of many sacred texts reflects patterns of common behaviour (sometimes in a highly-exaggerated version) that might be insufficiently documented in other forms of evidence (p. 50). Thus these texts provide information not only about religious abstraction, but about their more quotidianal source and inspiration. Could the 'Cannibal Hymn' illustrate the transformation of a combination of funerary rites associated with the sacrifice of a bull/cow[2] that were enacted for the king and for commoners into a textually-recorded myth that would be eternally enacted, thereby maintaining cosmic order and balance? Symbolically, the slaughter of an animal shows the triumph of humans and order (the Egyptian concept of *maat*) over the disor-

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der and chaos of nature, while its consumption further guarantees that ascendancy. Furthermore, the aspect of sympathetic magic should not be overlooked: by eating the bull whose different parts are associated with distinct divinities, the consumer assumes the strengths of these divinities, and becomes divine himself (discussed to some extent in Chapter 12).

On a practical level, butchery produces offerings, and thus food for both gods and mortals, the latter benefiting from ancient Egypt's redistributive temple economy (Kemp 1991, 232–8). This provides the focus for the rest of the book, where Eyre admirably synthesizes meat production, consumption, both personal and ritual, slaughter areas, tools, etc., although a further exploration of the sale of meat, both from the temple as well as between private individuals, might be of benefit here. The brief section on Meat Feasting (Chapter 17) raises questions about the desire to be able to glut oneself on meat, versus the behavioural ideal of moderation that is put forward in the Old Kingdom Wisdom Literature texts, such as 'The Instructions Addressed to Kagemni', and 'The Instruction of Ptahhotep' (Lichtheim 1975, 59–76).

In the excellent section on cannibalism (Chapter 13), the stress is, once again, on reality transformed to metaphor, both with animal and human sacrifice. It could be improved by a more extensive discussion on the human sacrifice that was associated with royal burials in the 1st Dynasty (and possibly before). These burials were probably replaced by offerings of images as well as of cattle, as, after all, people are often referred to as the cattle of the god in Egyptian texts. As my personal experience has shown, sacrificed meat offerings associated with funerary rites were quite common in the Coptic tradition until relatively recently. Excavators have also reported some cases of knife marks on human bones, which might be the result of defleshing, although the fate of the removed flesh is unknown. A further discussion of the possible consumption of the Apis bull by royalty and clergy might have enhanced this section, as a meal consisting of the sacred bull (the manifestation of the god Ptah on earth), very much conforms to the pattern of consumption outlined in the 'Cannibal Hymn'.

Eyre manages to demonstrate very convincingly how a text, which has hitherto been regarded as an esoteric religious inscription, can be used as a window not only into Egyptian religious practices, but also more commonplace activities, such as food production, that leave little trace in the archaeological record. He also very effectively uses the 'Cannibal Hymn' to serve as a reminder that ancient Egyptian religion was actually practised in a very real, visceral, way, and did not only consist of isolated esoterica. It is to be hoped that other scholars will follow the example of this more holistic approach when examining ancient texts in the future.

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Note

1. Recently Jorge Ogdon has also argued for the performance aspects of rituals that appear as spells in the Coffin Texts (Ogdon 2003), the texts that follow on from the Pyramid Texts, but are used in an élite rather than royal context.
2. Throughout the book Eyre stresses the sacrifice of a bull. He does not, however, address the problem of castrates sufficiently. It seems more likely that castrates would have been offered as they contain more meat and are less fierce (Ikram 1995, 10–12). Perhaps in certain ritual royal contexts, such as those outlined in the 'Cannibal Hymn', bulls were sacrificed, but it is unlikely that this was the norm. The physical evidence from the faunal remains unfortunately does not shed sufficient light on the problem as most of the offerings cannot be sexed because of their age (in this author's experience, the offered cattle are generally under one and a half years old, based on epiphysial fusion), or because sex cannot be determined from the portions offered.

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The Life after Death

Archaeologies of Remembrance: Death and Memory in Past Societies, edited by Howard Williams, 2003. New York (NY): Kluwer Academic/Plenum Publishers; ISBN 0-306-47451-4 hardback, £42.00 & US$105, 310 pp., ills.

Richard Bradley

Memory has become fashionable in recent writing, yet it has always been at the heart of archaeological research. On one level, the aim of archaeology, like that of history, is to fashion memories out of the remains of the past and, in doing so, to provide them with a context in the present. That is what is meant by the cultural heritage, and what is *inherited* from past generations determines how they are conceived. But are their achievements remembered or are they recreated? What passes for social memory is often a reconstruction, guided by the priorities of today.

Another aim of modern archaeology is to investigate how the past was conceived and used *in the past itself*. Although that may have involved knowledge that has since been lost, what we can observe are different kinds of practices, undertaken in relation to the durable remains of that past. Again, they are really an interpretation. That is hardly surprising when we consider how rapidly recollections are corrupted by the passage of time. That process can only be arrested by specialized techniques, the best known of which is writing. But there are other ways of arresting the attrition of time. One is by the making of memorials.

Archaeologists occupy a paradoxical position in relation to the passage of time. They see life in reverse so that, in principle, any development can be traced back to its point of origin. That raises the spectre of teleology. Because events may have followed a certain logic, it is all too easy to assume that this was what had been intended. Thus the very fact that certain monuments have survived to the present day becomes their raison d'être: they were created in order to contrive the memories of the future. In many cases it is the archaeologists who supply this rationalization for the material that they study. The monuments themselves are mute.

There is one obvious exception, and it provides the starting point for this book. That is where the lives of particular people were commemorated by a memorial that states its function through a written text. In other cases, it achieves much the same through the specialized use of material culture. Here the sense of the past in the past is narrowed down to the concerns of mortuary ritual.

The aim of this collection, then, is to consider the commemoration of the dead in a variety of contexts from the Neolithic period to the twentieth century. All but one of the contributors are European and every chapter is concerned with the Old World, and often with the British Isles. This might have seemed a weakness but in fact it has the advantage that a number of the case studies are closely linked to one another, although two them (those by Longden and by Petts) overlap to an unnecessary extent. Like so many edited volumes, this collection originated at a conference session which included other papers which have appeared elsewhere.

How far do these papers unite around the stated theme? Ten of the thirteen chapters are arranged in chronological order, although the last two break with that scheme. They begin with the building of a megalithic tomb and conclude with the reuse of a building of this kind to commemorate a Swedish archaeologist who died whilst excavating it. Four of the papers consider prehistoric evidence: Neolithic chambered tombs; Bronze Age cists, stone circles and rock art; and the bog bodies of the Iron Age. After that, there are a number of papers which are directly concerned with Roman or early medieval memorials to the dead, most of which were carved in stone and include inscriptions that can still be read today. Howard Williams also discusses the wider social and architectural context of a series of Christian burials in religious houses of the Middle Ages. Finally, the last two papers change direction. Effros considers the reuse of the early medieval grave goods in the creation of modern French identity. Holtorf concludes with a characteristically quirky essay with a Swedish title which he does not translate.

Nearly all the papers say something of interest and those by Chris Fowler, Mike Williams and David Petts are particularly original. Two are rather slight, and Gareth Longden's chapter on the memorial stones of early medieval Wales is not up the standard of Petts's wide-ranging essay. The question that concerns me is not whether these essays are worth reading — they certainly are — but how many of them really illuminate the relationship between death and commemoration promised by the title. Here I suggest that the central section works better than the other parts of the book. That is because most of the

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papers — those by Valerie Hope, Gareth Longden, Victoria Thompson and David Petts — are concerned with the ways in which we can interpret memorials that were explicitly dedicated to the dead. These chapters involve a subtle account of how the dead were remembered and the ways in which their significance was rethought over the generations. That also applies to the editor's paper on medieval burials and to his contribution, co-authored with Hella Eckardt, on the recycling of Roman antiquities, some of them taken from graves, in the burial rites of the migration period. All these contributions are directly relevant to the overall theme of this collection. That is not so obvious from the papers by Effros and Holtorf which conclude the volume.

What of the first group of papers, all of which consider the prehistoric period? Here is a change of focus, from the local and detailed to the general and abstract. That is inevitable in dealing with material which lacks the specific detail of the historical examples, but only one of the authors, Mike Williams, really addresses the topic of death and memory in any detail. He writes well, but it may be worth asking whether the quality of his analysis is entirely dependent on the remarkable preservation of the bog corpses that he studies, or whether it owes some of its power to the availability of literary evidence. Much depends on how we answer that question, for it may be that such an explicit emphasis on the workings of *memory* is beyond the range of most prehistorians. It may be wiser for them to study *the use of the past* in ancient society, for to do more than that involves a level of detail that will often elude them.

In the end the three parts of this collection read like sections of three rather different books: the first, a refreshing and original review of how the past was used in the prehistoric period; the second, the study of death and memory promised by the title; and, the third, two essays about modern perceptions of the past, both of which are worth reading, but neither of which seems at home here.

If the separate chapters are well thought out and generally persuasive, the credit is due to the authors. I am not sure that much credit is due to the publishers of this book. The price is excessive and the illustrations are poorly reproduced. Holtorf's quotations from the Swedish are not translated and there seems no evidence that Kluwer/Plenum employ a copy editor, for there are numerous errors, missing words and malapropisms that should have been corrected. Many of the contributors show a professionalism that the publisher seems to have lacked. That is a pity for this is a book that deserves to be read and discussed. As it is, it will probably be bought by libraries and photocopied by those who would gain most from buying it.

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The Strength of the Labour Evidence

Sexual Revolutions: Gender and Labor at the Dawn of Agriculture, by Jane Peterson, 2002. (Gender and Archaeology 4.). Walnut Creek (CA): AltaMira; ISBN 0-759-10257-0 paperback, £20.95 & US$26.95, xiii + 178 pp., 27 figs., 13 tables.

Christine A. Hastorf

This book in six chapters provides new data on human bodily activity during the millennia that span the onset of agriculture in the Near East. For the Old World, this is the critical time of change in daily practice, as first plants and then animals are brought more intimately into the communities, families and individual's life and worldview. Peterson's data provide concrete labour evidence that adds to issues that surround the Neolithic Revolution from the key area of the southern Levant, a core early farming area. Peterson focuses on the study of gendered labour patterns through the study of muscular attachments and thus muscular activities of the inhabitants and the sexed bodies when possible. By analyzing and reanalyzing skeletal remains from fourteen sites in three major temporal phases she presents specific data on life-long physical activity of Near Eastern people in the Natufian, the Neolithic and the Early Bronze Age I phases. The Natufian ranges between 12,500 and 10,000 BP. The Neolithic is the longest phase between 10,500 and 5,500 BP and includes the Pre-Pottery, Pottery and the Chalcolithic sub-phases. The Early Bronze Age I spans between 5500 and 5000 BP as its inclusion allows for additional temporal data from one site, Bab edh-Dhra.

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Sadly, these data are not developed in any way towards a reassessment of social life and daily practice during this critical time. Rather, Peterson focuses on muscular stress markers from various key places on the skeletal body that provide evidence for torso bearing and arm movements registered through muscle and tendon attachment scars. Through these concrete data, that record long-term repetitive actions, Peterson discusses labour patterns by age and sex. She wants to address the issue of division of labour and its role in early agriculture, key in many discussions of cultural change yet never directly addressed. This is a large issue that has remarkably not been the focus in the Neolithic discussion. And here we only dance by it in passing. The Levant area is critical, for it is there that we have the earliest domestic wheat as well as early grain harvesting. The Natufian is considered to be pre-farming, although clearly people collected, ground and ate cereals, harvested rather intensively from wild stands. The Neolithic spans plant horticultural adoption, while by the Early Bronze Age, herding domestic animals has entered the life of the residents. This scenario comes from artefacts and settlement evidence from the region, which Peterson briefly presents to set the stage for her bone data.

Her physical anthropological approach to the occupational evidence focuses on intensity and duration of habitual activities, through the study of stress lesions, robusticity and tooth wear. For the three phases she investigated a total of 158 skeletons, including 93 males and 65 females; 72 from the Natufian, 34 from the Neolithic and 52 from the Early Bronze Age. The Neolithic is the problem here, spanning 5000 years with only a few skeletons to represent such a dynamic, changing period. With these data she addresses both change through time and sexual differences that the evidence suggests. Overall, people worked harder in the Neolithic than in the Natufian, but the males lightened their efforts in the Early Bronze Age. Women were more steady in their efforts through time, with the males shifting not only what they seemed to have done but also their general level of exertion. The most prominent muscular differences between the sexes is in the Natufian where males use their right forearm more intensively. She concludes that this is most likely linked to spear or atlatl throwing by the males, further suggesting the regular hunting of wild game. The female bodies show a downward motion of both arms (adduction). The meaning of this muscular movement is undeveloped by Peterson when it is first presented, leaving the reader desperate to learn what range of activities such an activity might imply. Pages later she provides hints of grinding or even hide preparation, though no list of tasks that modern activity studies could propose are ever presented. Thus, we are left hanging when it comes to this sexual difference in tasks for the Natufian.

During the Neolithic, this right forearm emphasis fades from the male muscular attachment evidence, while both sexes have the same type of activities etched on their bodies, a downward motion in both arms. Peterson suggests that this similarity of symmetric bodily movement could mean many possibilities. She proposes several activities such as using a digging stick for farming and adze chopping for tree felling. Overall, we learn that the Neolithic descendants of the Natufians lived a more strenuous life, especially the men, for the women had been completing such activities previously. Adding artefacts she links these upper torso activities to increased grinding for both females and males as well as stick digging and hoeing. Thus in the Neolithic she stresses a convergence in bodily activities. Curiously, she goes on to discuss how these converging activities could reflect different tasks for the different sexes — digging for the men in the fields and grinding for the women — rather than any implications for social convergence or democracy of their social world, let alone how they might have viewed the world around them (Cauvin 1994).

The population from the Early Bronze Age was less healthy. The muscle attachments are less clear, yet we learn of a new array of activities they suggest. Women were working harder, carrying more bundles, dairying, milking and weaving. Males now are working less strenuously than before. She attributes this evidence to their focusing more on domestic animal herding, which she suggests entails overall less effort. Her lack of discussion concerning the upper torso (farming) changes suggests that upper torso activities are less pronounced in this later population. Does this mean that the people are not farming or grinding their food? Her only hint at such a shift is that she attributes beasts of burden, such as donkeys, to lightening the muscular loads of these Early Bronze Age folk. If this was in fact the case, then the previous Neolithic upper torso muscular evidence should be reflecting the carrying of harvests and fodder, rather than digging stick use, as was suggested. The lack of strong conclusions about group and individual activities from these data makes for frustrating reading. Through time, she concludes that there was a convergence in activities and then a less strenuous lifestyle.

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The social organization of space is discussed to bring in a fuller picture of past livelihoods. This material suggests that by the Early Bronze Age I there are more divisions in the inhabitants's lives and thus more specialization. Peterson tries to note where the usual gendered stereotypes have influenced past thinking, applying feminist theories to the archaeological evidence. As we move through the material by time, however, we find that women are grinding in the Natufian, carrying heavy loads in the Neolithic and staying home to process dairy products in the Early Bronze Age, interpreting them at home again. To be fair she suggests that men also could have been grinding grain and farming in the Neolithic, as both sexes have the same symmetrical arm movements. What we miss is how gender symmetry or asymmetry might have linked to this history of sexual labour. She claims that there is no strong sexual division of labour in either the Natufian or the Neolithic, with male activities changing more than females. These conclusions have the potential to mean many things about these past lives. We are sorely lacking any real sense of people's lives and their social worlds, let along their daily practices.

While interesting, the data do not address what the book title suggests. We do not see a sexual revolution in the data. The issues of gender, self-identity and social relations are not part of the discussion. Nor do we learn about gender or gender relations. Here, labour is not labour organization. Peterson's build-up to divisions of labour and feminist scholarship, let alone the symbolic and meaning structures that work and these daily activities might have held, is essentially lacking. While one cannot make the data better than they are at this stage of research, we can expect more discussion and development concerning life in the past and the social world of gender creation that these daily tasks would have directed their participants into. Her 'putting faces on the past people' is only seen in three sketches of daily life. While this potentially could have been an important book on Neolithic transitions, its immaturity places it as primarily providing some empirical data on life-long work patterns, still leaving the door open for a provocative look at the gender relations and changes in social life such as seen in Wright's discussion of community life through the lens of ground stone (2000).

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