

## BOOK REVIEW

**Controversies in Archaeology** by Alice Beck Kehoe. Walnut Creek, CA: Left Coast Press, 2008. 256 pp. \$29.95. ISBN 978-1598740615.

Anthropologist/archaeologist Alice B. Kehoe not only has a solid record of empirical research and scholarly publication but is also known for her critiques of American archaeology and archaeologists (notably, Kehoe 1998, in which she does not shrink from calling spades spades). Further, certain of her interests and ideas have involved some of the most contentious topics in the field. Thus, she is a “natural” as author of a book on *Controversies in Archaeology*. This particular volume is aimed at college-level courses but is also informative for a broader audience. It tells much more than what is or has been controversial; it gives extended glimpses of many general changes that have occurred in anthropology’s subfield of archaeology over the past half-century or more. Numerous case studies are provided. A major point is that differing values and presuppositions among archaeologists and others commonly lead to differing and often conflicting interpretations of the data and even to divergent opinions as to what data are looked for and at.

In her opening chapter, “The Past Is Today,” she states, “The fun part of science is finding unexpected data and proposing an explanation that startles people” (p. 11). Although not true for conventional scholars who stodgily confine themselves to mainline, non-controversial investigation, the excitement of unusual data and paradigm-shaking interpretations does provide spice for many more adventurous scholars (a few of whom, it must be acknowledged, have overreached). Such novel data and interpretations also inevitably generate argument, because they call the accepted into question.

Professor Kehoe points out that some former core ideas in the field of archaeology have included concepts that have been more or less discredited in recent times. These include 1) Late Pleistocene Siberian hunters following megafaunal-game animals across the then-dry Bering Strait and subsequently moving southward into interior America via an ice-free corridor between the glaciated Rocky Mountains and the retreating Laurentide ice sheet of eastern Canada; 2) a lack of development of true pre-1492 Native American civilizations in what is now Anglo-America; 3) the risen Holocene oceans’ having caused a total isolation of the pre-Columbian New World from post-Pleistocene interaction with the Old World until (and then, insignificantly)

the eleventh century A.D.; and 4) a lack of noteworthy interaction between pre-1492 North America north of Mexico and Meso- and South America.

She asserts that many even-earlier core concepts were unconsciously based on Anglo-American racism—for example, that Native Americans were incapable of constructing the impressive erections of the “Mound-builders.”

Archaeology/prehistory has highly significant political and economic implications and uses.

Known pasts are used to draw tourists, often making up a substantial part of the economy. . . . Modern nations assert their inalienable right to their homeland by exhibiting archaeological finds from the territory, proving that people did live there for millennia. . . . [But W]here the ancient people [really] the forbears of the present population? (p. 23)

Chapter 1 also raises knotty questions concerning who “owns the past” in the form of artifacts. Is it the countries in which the objects originated, no matter how corrupt, unstable, or war-torn, or is it (or should it be) responsible, state-of-the-art museums in safe, relatively stable countries? Should prime treasures—the patrimony of the past—be commoditized by poor local people endeavoring to make a living through illegally (and content-destroying) unearthing and selling the leavings of their predecessors, by acquisitions on the part of art and antiquities dealers, and by sales to private and public collectors?

Other issues Kehoe raises are: the question of artifactual fakes (which are legion); the authenticity of the restorations of certain ancient monuments; and the reliability of, and even the competition between, the interpretations of the pasts involved (e.g., Native American vs. Anglo-American vs. African-American perceptions of sites’ pasts). Then, there is the problem of deterioration of sites by excessive visitation, plus the question of access afforded to sacred sites for believers and the perceived profanation of such sites by tourism development (and, one might add, by New Ager’s rituals and the like).

During recent decades, ethical issues regarding archaeological digs have engendered burgeoning discussion followed by changes in approach. *Cui bono* issues arise. Site excavations provide short-term paid employment for local people but also involve removal of ancestral treasures, which might be seen either as a local loss of patrimony or, instead, loss of a saleable resource; in fact, a professional dig may inspire the natives to excavate illicitly for their own economic benefit. Local site museums, intended to keep materials in the communities where they were excavated as well as to spur tourist income, are becoming increasingly common.

Chapter 2 is an excursion into “Scientific Method.” Kehoe makes the point that because scientists cannot examine all of the infinity of data out there, they must be selective in what they look at; selection is based on what seems likely to be informative in answering questions deemed important. Therefore, theory guides investigation.

Real science, explains Kehoe, relies exclusively on empirical observation, including measurement. It attempts to describe, define, and categorize with precise language and, when appropriate, to utilize visual images to communicate, providing “virtual witnessing.” One builds a “chain of signification,” from naming through classification to interpretation. Scientific archaeology strives to employ “inference to best explanation.” From observed data collected, the archaeologist induces an explanatory hypothesis, which is then tested by means of new observations in order to ascertain the consistency of the hypothesis.

During the 1960s and 1970s, Processual Archaeology enjoyed a vogue. However, its hypothetico–deductive approach did not work, because it began with an explanatory hypothesis and from that hypothesis deduced what data to seek. If the information found fit the hypothesis, that was considered a validation. There was no testing of alternative working hypotheses.

Properly, in interpretation one applies the criterion of probability, based on frequency of occurrence of a phenomenon in other instances. The explanatory hypothesis is revisable in light of new data. “Still, improbable is not impossible. . . . Anything that is physically possible is scientifically possible, whatever the odds” (p. 44). One might add that there is a high probability of *some* improbable occurrences, that Ockham’s razor is suggestive not definitive.

The author discusses the process of paradigm shifts. She upholds the necessity of pre-publication peer-review of research to uphold quality but also sees the danger that conventional, conformist thinking on the part of reviewers may stifle dissemination of innovative ideas.

In Chapter 3, “Popular Archaeology,” Dr. Kehoe tackles widely credited notions such as the landing of a saucer full of extraterrestrials near Roswell, New Mexico, in 1947. An archaeologist working in the area at the time remembers no unusual occurrences, she says. She may be referring to Herbert W. Dick, who denied knowledge of any landing—a denial termed false by some UFOlogists (Bragalia 2010). (Postscript: 2002 geophysical prospection and archaeological testing of supposed extraterrestrial-spacecraft landing sites on the Foster Ranch, intended to evaluate the sites’ potentials, yielded nothing startling. Of the two kinds of physical evidence reported by eyewitnesses, no clear signs of one, an unnatural furrow, were discovered—although after 55 years, geomorphic processes could have

obliterated it. Regarding metallic debris, nothing out of the ordinary was found. An old weather balloon was discovered, but its age was estimated to be only about a decade (McAvennie 2004; analysis of a few puzzling specimens had not yet taken place at the time of this publication). For a recent book regarding credible UFO sightings, see Kean (2010). Pollard (2011) asserted that secret Cold War-era highly maneuverable unmanned aircraft built and tested in the Roswell area can account for local UFO sightings.)

Erich von Däniken comes in for negative attention as a consequence of his attributing to spacemen certain Mayan imagery as well as medicine wheels of western North America.

The problem for archaeologists is that von Däniken and his imitators appropriate actual sites and antiquities, denying credit to the peoples such as the Maya who did create them. In a sense, von Däniken stole the achievements of [Palenque King] Pacal's Maya citizens and the ancestors of the Saskatchewan Indians who scientifically mapped in stone the positions of six astronomical bodies at solstice. (p. 61)

Another topic treated is the fraudulent artifacts whose putative provenience is "Burrow's Cave" near Olney in southern Illinois (which Kehoe does not specifically name), alleged to be the burial site of Alexander the Great and the Ptolemys—all of which she labels "flim-flan" [sic] (in 1992, Russell E. Burrows and Fred Rydholm penned a book, reminiscent of the novels of Edgar Rice Burroughs, about the alleged site). She also discusses the flamboyant University of New Mexico archaeologist Frank Hibben, whose claim that he found Sandia spear points in association with extinct fauna has never been verified by others.

"Pyramid power" is another target of Kehoe's myth-exploding effort. Atlantis earns her skepticism, as well; Plato's story of the sunken city wasn't intended to be history, she explains, but was a parable illustrating the principle that natural disasters can overturn even the finest works of humans. But legends die hard; on the basis of his belief that Tiwanaku, Bolivia, was Atlantis, within the past decade Col. John Blashford-Snell of Dorset, England, built a bulrush raft and traveled down the Amazon tributaries with the ultimate intent of reaching the Atlantic and sailing on to the Red Sea and the Persian Gulf (Blashford-Snell & Snailham 2002).

The "Aryan" master-race fantasy, "creation science," and the claim of the contemporaneity of humans and dinosaurs provide additional butts.

During the 1970s, the practice of "psychic archaeology" gained a few professional adherents. Certain self-proclaimed psychic individuals purported to be able to apply extrasensory perception (ESP) to archaeological

questions, as in reconstructing what ancient life was like at sites. Such persons employed psi, defined by Kehoe as “a tenuous ability to perceive more than most other people can,” acknowledging “certain persons’ unusually acute perception and recognition” (p. 67). However, psychics’

pronouncements fall outside the range of science’s ability to confirm or debunk . . . [P]sychic time travel, extraterrestrials, pyramid power, secret codes and lost cities [like Atlantis] defy reasoned efforts to explain how much we do know about the human past. (pp. 68–69)

(Readers of the *Journal of Scientific Exploration* no doubt have a different perception of the scientific testability of some of these phenomena.)

All in all, observes Kehoe, many popular books and television specials falsely promote controversies in their expositions, controversies that do not really exist *within* the field of archaeology.

“America’s First Nations” is the subject of Chapter 4. A “First Nation,” for the author, is “one of the nations first in a territory, before European invasions.” (She presumably does not mean the usually unknowable very first inhabitants but, rather, the historically identifiable pre-European denizens—descendants of whom may still survive.) “The most serious legitimate controversy in contemporary archaeology is the question of whose country America is” (p. 79). She describes the complex issues respecting scientific versus indigenous values, First Nation sovereignty, control of sites and artifacts, and competing interpretations. As an example, she cites the clash between scientists and Native Americans over disposition of the remains of the Late Pleistocene Kennewick-man skeleton unearthed in Washington State. Despite the challenges, Kehoe lauds the usefulness of archaeologists’ studying the local ethnography as well as the archaeology, and the growing collaboration between Indian nations and archaeologists (and there are now numbers of Native American archaeologists); many Indian Nations hire archaeologists for purposes of heritage-preservation.

As an example of the synthesizing of Anglo-American written history, Native American oral history, and archaeology, she cites the historical reconstruction of what took place at the 1876 Battle of the Little Bighorn (“Custer’s Last Stand”). Other instances of cooperation mentioned include Hopis and archaeologists cooperating to identify prehistoric Hopi sites in southeastern Arizona’s San Pedro Valley, which carries implications for artifact-repatriation under the Native American Graves Protection and Repatriation Act (NAGPRA); and archaeology providing a basis for Blackfoot land claims to mountain hunting zones under the 1946 Indian Land Claims Act.

Missing in this discussion of controversies are the many cases of overlapping land claims among the various Indian “tribes” during the land-claims cases of the latter half of the twentieth century, the most notable of which involved the conflicting claims between the Hopi and the Navajo of northeastern Arizona (see, e.g., Brugge 1994). To the different claimants and to the courts, ranks of archaeologists often offered conflicting interpretations.

Kehoe discusses the various regrettable errors and exploitations that occurred under U.S. Indian policies of the nineteenth and twentieth centuries. She also treats archaeologists’ former blasé attitudes concerning exhumation, examination, and display of Native burials and grave goods on the often-false assumptions that traditional culture had disappeared upon the settling of the Indians on reservations and that the deculturated Natives no longer cared about their primitive, pagan forebears. The 1990 passage of NAGPRA reflected changing perceptions and required non-Native holders of sacred and funerary objects—such as museums—to repatriate them to identified Indian nations or individuals who had legitimate claims to them. The process of repatriation is an ongoing one, fraught with controversies. Some Indian Nations have accessioned the objects and human remains awarded to them, others have elected to allow museums to curate them safely and respectfully, the Indians taking them out, if at all, only periodically for ceremonies.

For the acquisition of indigenous information, mutual trust must be established between scholar and informant.

Those of us who work with First Nations take time to establish a clearly reciprocal relationship, fulfilling requests from them and sharing data and records. (p. 95)

Oral history can be very useful for its potential factual content but must be approached with cautious regard for possible distortions and omissions reflecting religious beliefs, personal or group agendas, and memory lapses.

Chapter 5 introduces us to “Finding Diversity.” Beginning in the 1960s, archaeology experienced a rising consciousness and appreciation of human diversity and individual human agency reflected in the archaeological record, in part as a reaction to the Processualists’ sanguine belief in the discoverability of deterministic universal laws of cultural evolution. This development paralleled the emergence of “alternative lifestyles” in wider society as well as increased recognition and appreciation of, and focus on, societies’ diversity in terms of ethnicity, age, gender, abilities, wealth, roles and statuses, and so forth. Kehoe contrasts this multifaceted, subcultural, and

individual-agency view, which she associates with wider social movements for reduced sociological and political constraints as well as tolerance for differences and for individual idiosyncrasy, with the universal-laws approach of the Processualists, to whom she attributes a fascist yearning for a tightly regulated and controlled society based on universal principles.

This general atmosphere, plus research conducted in connection with the post–World War II Indian Land Claims litigation, plus the rise of cultural-resource-management (CRM) salvage archaeology, fostered the emergence of *ethnohistory*, which involves the synthesis of written history, oral history, and archaeology in the service of reconstructing the pasts of formerly non-literate societies, with much more emphasis than previously on the Native point of view—and, often, under the aegis of the Indian nations themselves.

Beginning with a 1989 Chacmool conference at the University of Calgary, gender archaeology has become prominent, in which evidence for differing gender roles is explicitly searched for in the archaeological record in contrast to simply making assumptions about universal gender roles.

Another development of the past few decades regarding diversity, and one fueled particularly by class-struggle-oriented Marxist archaeologists, is interest in the archaeology of formerly often-ignored non-elite sectors of past societies, humble often marginalized sectors such as the poor, prostitutes, slaves, and the like. This shift in traditional emphasis also reflects a shift in the field from museum-supported, spectacular-object-oriented, institution-directed digs to grant-supported, academic examination of past ways of life and to CRM salvage archaeology, which looks for everything that archaeology can tell us.

Chapter 6 is “Religion and Archaeology.” There, various topics are covered:

- Archaeology has shown Stonehenge to be clearly pre-Druidic, contrary to the suppositions of neo-pagans.
- Later archaeologists, such as Cynthia Eller, have shown the suppositions of the (unsought) New Age followers of the late archaeologist Marija Gimbutas who worship the “Goddess” who supposedly reigned in pre-patriarchal Neolithic Çatal Höyük, Turkey, are based on no convincing evidence (see review by Jett 2011b).
- The term *shamanism* has been stretched to the breaking point. True shamans are community priests who go on drum-induced trance journeys to the land of the spirits and who are confined to Siberia and northern North America. Shamanism cannot be used as a global explanation for rock art, as some have endeavored to do especially during the drug-using 1960s and 1970s. Different rock art reflects

different purposes and reflects different mental states, not just the ecstatic visions of religious leaders.

- The *Book of Mormon* is a religious but not a scientific source for belief.

With the rise of evolutionary theory beginning in the mid-nineteenth century, scholars have increasingly questioned aspects of the *Holy Bible*. As more and more finds by biblical archaeologists—who initially intended to unearth artifactual confirmation of the scriptures—proved to be at odds with that book, numbers of these researchers tried to become more objective and renamed themselves Syro-Palestinian archaeologists. Kehoe mentions questions that have been raised concerning the destruction of Jericho, the numbers of people involved in the Hebrews' Babylonian Captivity, and the existence and nature of kings Saul and Solomon. She cites evidence of a pre-Captivity association between Yahweh and the Canaanite deities Baal and Asherah, even, sometimes, with the latter goddess being seen as Yahweh's consort.

Kehoe concludes that science and religion are not at war but are different realms: Science deals only with the natural and observable, whereas religion is concerned with the supernatural and hidden. She does not say what happens when the two make conflicting assertions, such as creationism versus scientific evolutionism.

Chapter 7 involves "'Diffusion' versus Independent Invention." Scholars have been remarkably resistant to the idea that humans could have crossed the oceans before A.D. 1492 (or A.D. 1000) and could thus have been in a position to influence folks on opposite shores. Kehoe terms this a conflict between "dogmatic orthodoxy and common sense," feeling "that the model of intermittent contacts best explains the cited features of indigenous American cultures" (p. 140).

She gives examples of good candidates for contacts. One is for Polynesians reaching the Pacific coast of the Americas. Evidence includes Oceanian-looking sewn-plank watercraft—the *dalca* in Chile and the *tomol* in Southern California. The name for the latter appears to be derived from the Polynesian language. And in southern Chile, late-Pre-Columbian bones of Western Polynesian chickens have been excavated. Too, the sweet potato, a South American domesticate, appears in the pre-European-contact archaeology of Polynesia and carries a South American name, *kumara*. (Since the appearance of Kehoe's book, an important compendium volume on this topic has been published: Jones et al. 2011.)

Historically, people of European, particularly Northwest European, origin have felt that they were racially superior and mentally and culturally the most evolved of humans, but this view has increasingly been repudiated,



and non-European archaeologists have been making their abilities manifest. Too, technological ascendancy has characterized different societies over time; until the eighteenth century, China led the West in this realm. And in ancient times, it was northern Europeans who were relatively “backward” and who traveled to, traded with, and took goods and ideas home from, the Mediterranean civilizations.

Joseph Needham’s magisterial, multivolume *Science and Civilisation in China* and his other publications provide multitudinous examples of cultural diffusion within Eurasia and beyond. Needham and his collaborator Lu Gwei-djen set forth criteria for assessing the probability of diffusion explaining any particular case of distant occurrences of culture traits. The first criterion was “collocation,” that is the numbers or complexities of traits or trait complexes found in the two areas; the more numerous and/or elaborate, the greater the likelihood of diffusion rather than independent development having taken place. The second criterion was geographic distance; but great, difficult-to-traverse distances separating occurrences can be evidentially countered by demonstrating that travel actually happened or that the means of travel—e.g., ships, camel caravan—were present. The third criterion was chronological congruences versus gaps; but time gaps in the record are not definitive in proving independence because they may reflect as-yet-undiscovered evidence and/or the tradition having been carried on in perishable materials that have not survived to the present for archaeologists to find. “[I]n archaeology, *lack* of evidence does not *prove* a phenomenon never existed” (p. 147).

Kehoe presents the example of the Chinese practice of block-printing texts onto paper having stimulated the fifteenth-century German Johann Gutenberg to rework this concept and to develop printing with movable type. She observes that nomotheticists (universal-law seekers) have difficulty in dealing with the complicated particulars of this kind of diffusion of trait complexes. Further, nomotheticists’ search for regularities in cultural evolution is confounded by the fact that, globally, different peoples have devised divergent solutions to comparable survival challenges; different histories yield different outcomes.

Sometimes, new data have required revision of diffusionist hypotheses. An example is John E. Clark’s re-examination of James Ford’s earlier conclusion that the mound-erecting, incised-pottery-making American Formative cultures, ranging from Louisiana to Peru, represented waves of diffusion as a complex that commenced some 5,000 years ago. On the basis of better dates and other considerations, Clark instead later concluded for multiple movements of various groups and traits at different times. Debated, too, is whether there even was a single Mesoamerican-civilization “mother

culture”—the Olmec of the San Lorenzo region of Mexico’s Gulf coast (Olmán)—or whether Olmec was just one of several interacting polities of the time; whether Olmec-style ceramics found widely in Mesoamerica represent exports from Olmán or, rather, local emulation of the Olmec style (many of the extra-Olmán sherds are made with Olmán clays, a fact that favors the export claim).

Much cultural and biological evidence for early transoceanic contacts has been forwarded. Among the former, are: the bark-papermaking complex and ritual cutouts made of the paper, wheeled figurines, and royal-purple shellfish dyes (for better evidence on dyestuffs, see Jett 1998). I would add my own work on the distribution of the blowgun complex (Jett 1970, 1991) and of resist-dyeing methods (Jett 1999). Other traits include the jade complex, tiered pyramids whose levels represent the layers of heaven, Hindu-style postures and hand positions, and, especially, a complicated calendar system (Kelley’s 1981 manuscript on calendar comparisons, cited by Kehoe, is currently in press, in *Pre-Columbiana*). Some Asia–America indigenous cultural sharings may reflect not pre-Columbian contacts but, rather, post-1500 transpacific links such as the Manila galleons that plied between Mexico and the Philippines.

Drawing upon an earlier book of hers (see review by Jett 2011a), Professor Kehoe summarizes the new evidence that the much-reviled, supposedly fraudulent, Kensington, Minnesota, Norse runestone, dated 1362, is in fact genuine.

Even more compelling than cultural commonalities is biological evidence. This is in the form of organisms—cultivated plants, intestinal parasites, and so forth—that were shared between the hemispheres in pre-Columbian times but which are very unlikely to have been able to travel across oceans or via the Arctic. An astounding compendium of such evidence assembled by anthropologist John L. Sorenson and geographer Carl L. Johannessen (2009) is the latest and greatest of the works that have appeared on this topic (Kehoe cites an earlier version). Of the plant evidence, some of the most striking is the finding of residues of nicotine and cocaine in Egyptian and other mummies, implying access to the American domesticates tobacco and coca (see also Jett 2003–2004).

Psychologically, scholars who grew up being instructed that Columbus was first are like small children—or adults—who vehemently object when sung a variant version of a song or told a variant of a story. Kehoe writes,

Most archaeologists don’t want to think about this evidence; it makes them uncomfortable to discuss data drawn from research areas outside their own studies, and it’s hard to overturn the reigning paradigm that “primitive people” couldn’t cross water “barriers.” (p. 159)

Although she predicts a future paradigm shift in favor of contacts and diffusion, Kehoe observes that

Not many archaeologists were experienced sailors and Western culture tends to see water travel as more dangerous than travel by land. Sailors, on the other hand, will maintain that open sea is less hazardous, though coastal waters, they do admit, are often perilous. (p. 153)

Characteristically, most archaeologists have been only vaguely aware of the capabilities of the three major non-Western traditions of watercraft—of which the author gives brief descriptions. To demonstrate the possibility of transoceanic contacts, she provides (on pp. 155–157) a table of some experimental voyages (by Thor Heyerdahl and by Tim Severin, described on pages 154, 157–158) of replica ancient watercraft as well as of numerous modern, small-boat ocean crossings, many solo and in tiny, flimsy craft.

Kehoe grants that some diffusionists have gone overboard, as it were, with poorly supported but dramatic claims, mentioning as examples the early twentieth century anatomist/cultural historian G. Eliot Smith (who is currently undergoing intellectual reassessment; see Smith 2011 and Crook 2011) and the late-twentieth century's avocational epigrapher Barry Fell.

Chapter 8 of the book treats "What People before Us Could Do: Earlier Technology." In the 1960s when monuments like Stonehenge were first seriously attributed astronomical-observation functions, there was wide and sometimes derisive objection; it was perceived that the ancients could not have possessed such sophistication. In the meantime, however, archaeoastronomy has become a recognized, mainstream aspect of archaeology. Kehoe expostulates on a site that she and her late husband Tom Kehoe studied, southern Saskatchewan's Moose Mountain "medicine wheel," which dates to the mid-first millennium B.C. It exhibits five sightlines to bright stars and another to the sun at solstice—perhaps to signal the moment for the annual rendezvous of the tribes.

Kehoe goes on to describe pyramids in Egypt, Mexico, and Illinois, pointing out solar alignments as well as mentioning the still-debated means of lifting massive stones up the rising Egyptian edifices during construction, the provision of adequate drainage, and so forth.

She also touches on Old and New World earthen mounds, including giant geometric Hopewell enclosures with lunar alignments, lengthy avenues, and big burial mounds in Ohio, and notes those people living in simple structures and settlements despite the sophistication of their geometric and earthwork-building skills and their access to raw materials from as far away as Yellowstone, the Gulf of Mexico, and the Southern Appalachians.

The author includes a box on the “mysteries” of Easter Island, which become less mysterious as one looks at them in context. The settlement of this remote speck of land was part of a Pacific-wide Polynesian colonization thrust, and the giant statues can be transported overland and set upright using simple mechanical means.

The sources, timing, and routes of the initial peopling of the Americas have long been among anthropology’s most contentious areas of investigation. The long-dominant notion that the first arrivals were the ancestors of the creators of the Clovis spearpoints who followed big-game animals across Beringia into North America has recently been dealt a seeming deathblow by the excavation of several pre-Clovis American sites, by the recognition that the “ice-free corridor” was impassible at the time, and by the ascendancy of the boat-borne, Pacific-coastal-migration concept. Kehoe looks at these issues and also discusses the particularly controversial hypothesis that Clovis ancestors arrived not from Siberia but from Solutrean-occupied areas in Iberia, migrating along the edge of the Late Pleistocene North Atlantic ice pack (see Jett 2012; a major book on the subject, Stanford & Bradley 2012, has appeared since *Controversies* was published). Kehoe finds the idea attractive but remains bothered by the current large chronological gap between Solutrean and Clovis.

Regarding possible pre-Clovis sites, Kehoe has reservations about the dating of the Meadowcroft site, in Pennsylvania, but accepts Wisconsin’s Chesrow complex, South Carolina’s Topper site, Virginia’s Cactus Hill, and Texas’s Gault site as manifesting occupation a millennium or so before Clovis (Texas’s pre-Clovis Buttermilk Creek Complex (Waters et al. 2011) had not yet been reported by the present book’s publication date). She seems also to accept the Monte Verde site in Chile as pre-Clovis, while noting that a number of discrepancies appear in the published report.

The book’s ninth chapter is “Neandertals, Farmers, Warriors, and Cannibals: Bringing in Biological Data.” The forebears of Neandertal and anatomically modern humans (AMH) split off from their ancestral species, *Homo erectus*, some 400,000 years ago (as *H. heidelbergensis*), with modern humans differentiating about 160,000 years ago (nearer to 200,000 years ago, according to more recent estimates, and 300,000 years ago for Neandertals). The AMH and the European and Near East’s Neandertalers have been considered to be separate species, but it is not known whether interbreeding took place and resulted in fertile offspring, leading to the eventual genetic swamping of Neandertalers by modern humans. (More recent work has identified Neandertal genes in some contemporary Eurasian human populations (Gibbons 2010), which would suggest that the two lines were but subspecies.) These two species/subspecies long shared

Middle Paleolithic technology and subsistence strategies, but Neandertalers may have lacked well-developed language as well as art (Kehoe feels that Neandertalers' burial of their dead bespeaks abstract thought and language, and some archaeologists do attribute art to Neandertalers (Balter 2012)); also debated is whether more-sophisticated Upper Paleolithic technology was exclusively the product of modern humans or whether some Neandertalers also learned it, from *Homo sapiens*. Kehoe seems to favor technological distinctiveness, at least with the inception of *H. sapiens*'s Aurignacian toolkit.

Another topic that has been argued is whether the spread of farming across Europe was a matter of group-to-group transfer, involving little migration (contagious diffusion), or whether Near Easterners carried the technology of food production with them while physically moving into and across the continent (demic diffusion), also carrying Indo-European speech with them. (Genetics now indicates that demic diffusion was, indeed, involved, predominantly by males, who often married local women (Haak et al. 2010).)

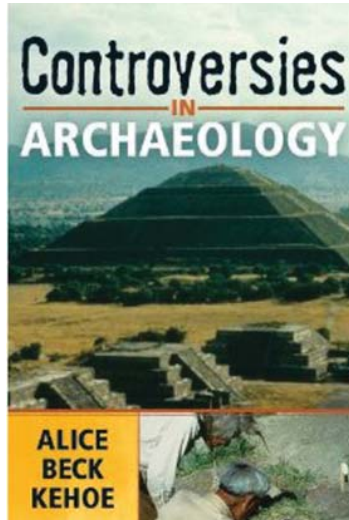
Farmers, Kehoe contends, had continuously to acquire and develop more farmland, because rapid population growth and the need to support non-farming occupational specialists required it. However, during Neolithic times, cultivators lacked armies to accomplish this. Further, Indo-European languages share little in the way of horticultural vocabulary, and other words that *are* held in common indicate an origin for the family in the steppes to the north of the Black Sea (for a competing, Anatolian-origin Indo-European theory, see Renfrew 1987). She concludes that farming, conquest, and language-spread were not fully congruent here, and that attributing major language spread simply to the spread of farming (à la Peter Bellwood 2004) is ill-founded. Expansion by force, she concludes, despite a lack of armies, is a stronger explanation.

Attributing warfare to peoples such as Marija Gimbutas's allegedly pacific, goddess-oriented, Neolithic, Middle Easterners or to the ancestral Hopi—"the peaceful people"—of Arizona by authors such as Lawrence H. Keeley has generated much resistance. This was particularly the case when Christy Turner gave evidence that the Hopi had even occasionally practiced cannibalism.

Although acknowledging that commonly evoked simple explanations for warfare, such as scarcity engendered by climate change or by population growth, are probably sometimes correct, Kehoe cautions that these are not necessary conditions.

She forwards the case of the large Cahokia mound complex in southern Illinois, where excavation of a small mound revealed 266 seemingly

sacrificial bodies and rich grave goods; the victims—war captives?—were from distant areas. Kehoe sees Cahokia resemblances to historical Osage practice and even to aspects of southern Mexico's Mixtec culture. She also comments on Chaco Canyon, New Mexico's, connections with the south, involving exchange of turquoise for macaws, ceremonial knowledge, etc., tentatively identifying Cahokia's and Chaco's trading partner as Central Mexico's late-pre-Columbian Toltec culture. Cahokia may have exported foodstuffs, deer hides, and slaves.



Alice Kehoe's final chapter, 10, is on "Competing Theories of Cultural Development." Over time, the general question of the processes of cultural elaboration has probably been the most controversial one in the field, producing dramatically opposed answers. In fact, as in the case of a number of other disciplines, archaeology has been plagued in contemporary times by extreme internecine conflict, disdain for dissenting colleagues, and other forms of divisiveness.

She speaks of the nineteenth-century idea of cultures being superorganisms, entities greater than the sum of their members, with intrinsic tendencies toward inception, florescence, decline, and extinction, observing that this concept is no longer taken literally but only as a metaphor. (Certainly, individuals are in considerable degree conditioned by the cultures/societies into which they were born and in which they exist, which are in that sense superorganic.)

The rise of the Darwinian concept of organic natural selection inspired the notion of *cultural* evolution, a vision that, although waxing and waning and transmogrifying over the years, remains a strong tradition today.

Kehoe points out that it is an error to assume, as many do, that "evolution" necessarily equates with "progress." And she writes of the widely accepted "racist" cultural evolutionary theories of the pioneering nineteenth-century American avocational anthropologist Lewis Henry Morgan ("savagery," "barbarism," and "civilization"), which ultimately fell into disrepute, particularly owing to the meticulous and broad-minded empirical and interpretative work of the German-American Columbia University anthropologist Franz Boas. She also mentions the impact of Karl

Marx's materialist thinking on the influential earlier-twentieth-century Australo-British archaeologist V. Gordon Childe.

The socialist University of Michigan anthropologist Leslie White and his colleague Elman Service rejected Boas's historical particularism and revised Morgan's old ideas to produce the concept of unilinear cultural evolution, which, in turn, set the stage for the 1960s rise of the "New," or Processual, Archaeology. The latter drew upon the environmental sciences—something that was very productive but which, at the same time, led to excessive ecological determinism. Practitioners also tried to be scientific by applying the hypothetico-deductive method, but this proved to be an inappropriate approach to the study of the pasts of cultures. "Their commitment to natural history rather than cultural histories persuaded them that human societies *must* follow evolutionary pathways" (p. 225), when in fact societies tend to *diverge* culturally according to the *particular* influences to which they are subjected.

The New archaeologists ignored Julian Steward's 1950 idea of *multilineal* evolution, a concept more in accord with (largely divergent) biological evolution. Steward felt that different environment types were fundamental in conditioning the basic lifeways of peoples and the sociopolitical natures of their societies but that secondary accretions could come from emulation of practices of other societies and also from internal innovation; Kehoe stresses that humans have always been inveterate travelers and that intersocietal exchanges have always been important for cultural evolution.

Although Processual concepts have been recently repackaged as "evolutionary archaeology," reaction against Processualism was one source of "Post-Processualism," in which the extreme relativism of philosophical Postmodernism included the ideology that reality is subjective, that "science" is impossible, and that all points of view are equally valid—a stance antithetical to any objective, fact-based, best-explanation interpretation.

These theoretical approaches relate to the question of how most human lifeways developed from those relatively simple, sparse-population ones based on the collecting of wild foods to those depending on agriculture and producing populous and elaborate societies and sophisticated technologies. Julian Steward followed a Marx-influenced historian (Karl Wittfogel; not named by Kehoe) who hypothesized that the rise of "hydraulic civilizations" required despotism to manage their critical irrigation systems. However, later empirical investigation of the facts and chronologies showed that this scheme didn't hold up. Subsequent Processual Archaeology tended to perceive the pressure of population growth as the engine for the development of farming, whose expansion, in turn, required an overall coordinating authority and

led to state-formation, which involved specialized occupations, including in religion and in military affairs.

No state, the Processualists contended, could arise in the absence of abundant resources, most fundamentally plenty of good farmland. But these notions fail to account for empires established by non-farming Asian pastoralists or for rich farming areas that did not give rise to states. “Ecological determinism fell short as a universal explanation” (p. 230).

Further, the gradually-increasing-complexity model of band > tribe > chiefdom > state, with advancing hierarchies, has been challenged. Mesopotamia’s development of writing, standardization, laws, administrative structures, and the like seems to have been in the service of *simplification* of increasingly unwieldy ramifying but poorly coordinated activities, and it took place over a period of only a few centuries, circa 3500 B.C. Further, along the Niger River in Mali, loose settlement and economic heterarchy rather than hierarchy seem to have predominated, manifested as village clusters rather than as nucleated cities, each village with its own production specialty but sharing power within the cluster and the whole operating as an economic and political system in a fashion similar to the functioning of a city.

Kehoe’s final paragraph includes the following observation: “Controversies will continue, but there seems to be a heartening reaffirmation of the importance of empirical data. There was a real past out there,” which we are endeavoring to understand as actualities and not to just theorize about (p. 235).

One could cavil concerning a handful of her factual statements, but Dr. Kehoe is remarkably knowledgeable and very largely quite accurate in this book. Her prose is aimed at undergraduates and will seem somewhat casual and inelegant to the more mature reader. But the work contains a great deal to ponder, on a great variety of intriguing, debated topics.

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