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FOREWORD

As I reviewed my library in preparing to write these prefatory comments, I was struck by the exceptionally worn condition of a single volume, Waldo Wedel’s 1959 *Introduction to Kansas Archaeology*. Reporting fieldwork accomplished in 1937, 1939, and 1940, the book, in the words of the author, was intended to serve as “a comprehensive review of the available ethnohistorical, archaeological, and geographical data bearing on the aboriginal occupancy of Kansas” (Wedel 1959: xiii). The success of this review, as an orientation and stimulus for archaeological research in Kansas over the past 42 years, can only be described as exceptional. The present publication is an attempt to build on Wedel’s feat, this time with 19 authors summarizing the results of a vastly intensified research effort financed with a great deal more than the $4,000 expended during Wedel’s (1959: xiv) early fieldwork.

Archaeology is a cumulative discipline requiring patient and dedicated efforts by numerous individuals, over lengths of time, to amass the data necessary to chronicle the events of the past and to interpret those events in an approximation of their original cultural context. In Kansas, both professional and avocational archaeologists have contributed to this effort.

PROFESSIONAL ARCHAEOLOGY

Beginning with the University of Kansas in 1948, and more recently with Kansas State (1965) and Wichita State (1970), the Board of Regents has supported professional archaeologists, who in turn have provided educational opportunities for undergraduate and graduate students through direct involvement in field and laboratory research into the prehistory and early history of Kansas. The master’s theses, Ph.D. dissertations, and publications resulting from this work form a major portion of the corpus of data on Kansas archaeology. For example, at the University of Kansas, 40 master’s theses and 10 Ph.D. dissertations have been written on Kansas archaeology to date. In addition, there are now 104 numbers in the Project Report Series from the Museum of Anthropology at the university.

In 1961, with the hiring of Roscoe Wilmeth as the first state archaeologist, another Kansas institution, the Kansas State Historical Society, recognized the important part that archaeology could play in the understanding and the preservation of Kansas’ cultural heritage. Since that time, archaeologists from the Kansas State Historical Society have worked across the state to record the location of historic and prehistoric sites, to mitigate the effects of natural and manmade destructive forces on these sites, and to see to their long-term preservation through purchase of the land
on which the sites are located. Examples of the latter include the extremely important Tobias site in Rice County, one of the sixteenth-century Great Bend sites perhaps visited by the Coronado expedition, and an early nineteenth-century Pawnee village in Republic County. Other contributions of significance are state laws to protect important historic and prehistoric sites on state, county, and municipal lands (KSA 75-5401 to 75-5408) and the Kansas Unmarked Burial Sites Preservation Act (KSA 75-2741 to 75-2754). Archaeological research projects from the Kansas State Historical Society are reported to the profession and the public by means of the Anthropological Series (17 volumes) and the Contract Archaeology Publications (25 volumes).

During the 1970s, a number of federal laws were passed with the cumulative effect of mandating full consideration of the impact of development projects involving federal funds or permits on significant historic and prehistoric sites. One important consequence has been the creation of new positions for archaeologists to administer federally funded cultural resource management programs and to review federal undertakings. Usually filled at the M.A. or Ph.D. level, these positions have added an important new force to the archaeological enterprise in Kansas. Prior to development, surveys are conducted to determine location and significance, followed by plans and implementation of appropriate mitigation efforts. A small percentage of development costs is available for archaeological work. In addition, federal agencies, such as the Bureau of Reclamation, the U.S. Army Corps of Engineers, and the U.S. Forest Service, are required to survey and determine the significance of historic and prehistoric sites on their landholdings. This work is often contracted out to private contractors or to state agencies. Federal dollars for archaeology for these two purposes have provided most of the financial support enjoyed by Kansas archaeology over the past 20 years.

AVOCATIONAL ARCHAEOLOGY

My earliest awareness of the varied and little-known prehistory of Kansas came from association, during my teenage years, with two avocational archaeologists in my hometown of Ellsworth, Kansas. Both were avid collectors, usually from the surfaces of sites in plowed fields. Later, while doing survey work, as a professional-in-training, I became aware of the widespread popularity of archaeology across Kansas and the tremendous resource for information on site locations on the part of interested and motivated members of the public. Most were willing to share this information, especially in return for the answers to questions on the temporal, spatial, and cultural meaning of artifacts recovered. Fortunately, archaeologists at the Kansas State Historical Society who encouraged the development of the Kansas Anthropological Association following its formation in 1955 also appreciated this trade-off. Training sessions in professional field and laboratory procedures were instituted, and as a
consequence, major contributions have been made, especially in the statewide record of site locations and in the excavation of important sites across the state. Professional archaeologists from the State Historical Society, assisted by archaeologists from the universities in Kansas and from federal agencies, have coordinated and supervised this work. A backlog of unpublished data remains, but recent efforts to involve graduate students at the universities are bringing these data to the attention of the profession and the public (e.g., Huhnke 2000; Bevitt 1999a).

Further direction and encouragement for the state’s avocational archaeologists came with Patricia O’Brien’s *Archaeology in Kansas* (1984). Written for “the Kansan interested in Kansas archaeology,” this summary of the prehistory and early history of the state also identifies a series of ways for avocational archaeologists to contribute to recovery, recording, and preservation of the cultural heritage of Kansas.

Although not strictly from Kansas, perhaps the best example I can give of the potential of avocational involvement in furthering the archaeological endeavor is the R. B. Aker collection at the Museum of Anthropology at the University of Kansas. Aker was a masonry contractor in Parkville, Missouri, on the Missouri River at the north edge of Kansas City. As a young man, he began collecting prehistoric artifacts from sites in the vicinity of Parkville, eventually expanding his collecting territory northward to St. Joseph, Missouri. This linear strip was narrowly defined to include the terraces and bluff tops of the hills along the Missouri. Over approximately 50 years, Aker returned many times to collect from the same sites, while expanding his sample to include new discoveries. During evenings and periods of inclement weather, Aker cataloged his collection, identifying where each artifact was found. As a consequence, the approximately 40,000 artifacts donated to the university in 1989 provide the best sample we will ever have of the first 10,000 years of human occupation along the lower Missouri River valley (Estep 1993: 12–17; Feagins 1993: 12–18).

**COORDINATION**

Fortunately, when one considers the immensity of the task (12,000 years of occupation spread over 82,158 square miles of territory), archaeologists working in Kansas follow a number of procedures that facilitate cooperation and coordination. Perhaps primary among these are the reports and discussions held each year during the Plains Anthropological Conference and the more localized Flint Hills Conference. Publication of the results of research is an exceptionally strong ethical stance that ensures that new work can build on previous accomplishments. Most of the archaeology done in the state is funded by federal agencies. Reviews, often of work in the field and laboratory as well as of final reports, are usual. Funding can be and has been withheld if the product is not acceptable. Another important mechanism of coordination is the statewide archaeological survey record maintained by the Kansas State Historical Society, with a duplicate copy at the Museum of Anthropology at the
University of Kansas. The transfer of the paper record into a Geographical Information System (GIS) format has significantly increased the potential of this resource.

Finally, the recent formation of the Professional Archaeologists of Kansas (PAK) (bylaws ratified 1996) bodes well for the enhancement of all of the cooperative measures noted above and the development of others as needed. Major goals of PAK include the encouragement of research designed to increase our understanding of the prehistory and history of Kansas, dissemination of the results of the research to as wide an audience as possible, and long-term preservation of the database on which the research depends.

RESULTS

The chapters in this volume summarize the accumulated knowledge of the many Kansas archaeologists, both professional and avocational, along with the institutions that have supported them, and serve to build upon the story of the earliest human occupancy. Themes include placing the events of prehistory in their proper chronological order (often called culture history). Studying changes in material culture is the essential first step, followed by attempts to explain the nature of the events.

To date, culture-historical studies have been most successful in eastern Kansas, the portion that has received most of the federal financial support and, consequently, the most archaeological attention. Here we have a basic understanding of the time block from ca. 2500 B.C. to the present (Late Archaic, 2500–500 B.C.; Early Woodland, 500 B.C.–A.D. 1; Middle Woodland, A.D. 1–750; Late Woodland, A.D. 750–1000; Early Plains Village, A.D. 1000–1500; Late Plains Village, A.D. 1500–1700; Historic, A.D. 1700–present). Numerous local variants of these generalized periods have been named over the eastern third of the state.

As we have begun to understand the archaeology of eastern Kansas, we also have been able to recognize detailed similarities with prehistoric developments in the eastern United States. Eastern Kansas (to and including the Flint Hills) fits much more comfortably with the diversified pattern of the East than with the focal orientation characteristic of the Plains. This is especially noticeable for the post–2500 B.C. periods noted above, but preliminary indications suggest that this relationship was probably true throughout prehistory (R. B. Aker collection, Museum of Anthropology, University of Kansas).

To the west of the Flint Hills, our record is much less detailed. This is, in part, a result of limited fieldwork, but also a reflection of lower population density and mobile lifeways. Early periods remain little known, with increasing knowledge available for more recent time spans, especially after A.D. 1000.

An important focus of culture-historical studies in Kansas has been the application of the Direct Historical Approach (Wedel 1938a). The logic of this approach is to work from the known to the unknown, by tying the ethnohistorical record of Kansas
area Indian tribes to the prehistoric record. Perhaps the best example, to date, is the research by Mildred Wedel (1982) and Waldo Wedel (1970a), which convincingly relates the Late Plains Village Great Bend culture (ca. A.D. 1400–1700) to the Wichita Indians. A strong case has also been built that ties the Dismal River culture of western Kansas to the Plains Apache (Champe 1949: 285–291; D. A. Gunnerson 1974; J. H. Gunnerson 1960). The Oneota tradition that extends into northeastern Kansas has been suggested as the origin of both the Chiwere (Iowa, Missouri, Oto) and the Dhegiha (Quapaw, Osage, Kansas, Omaha, Ponca) Siouan groups (Buffalohead 2004; Henning and Thiessen 2004), although the latter association has been challenged on the basis of similarities between the architecture and settlement patterns of the Kansa and the prehistoric eastern Kansas Pomona culture (A. E. Johnson 1991: 57–66).

Beyond identification, Kansas archaeologists have been equally interested in providing meaning to the temporal and spatial changes recognized in the archaeological record of material culture. The first step in this process involves inferences believed to approximate the context of an activity or event in the culture of the past. Recontextualization has primarily involved (1) inferences derived from relationships among items of material culture, and (2) the ethnohistoric record of Plains Indians. Point one is exemplified by Waldo Wedel’s (1970b: 36–45) report of antler tine handles for plano-convex endscrapers from central Kansas Great Bend sites. A more recent example is the recognition of spatial patterning in the small-scale debris recovered from Steed-Kisker sites (Logan and Hill 2000: 241–56). This example is based on the analysis of data from the increasingly precise excavation procedures that characterize most archaeological endeavors in Kansas. Point 2 is illustrated by Wedel’s (1979: 85–98) formula for estimating population based on house floor size, which draws heavily on the ethnohistoric records for the Pawnee and Wichita.

An important approach to understanding the reasons behind reconstructed cultural settings, and probably first applied in Kansas by Wedel (1959), emphasizes man-natural environmental interactions. The locations of most Kansas City Hopewell sites, for instance, are apparently a function of the availability of potable water, protection from floods, and ready access to a variety of environmental niches from which first-line resources could be extracted (e.g., deer, turkey, fish, nuts, wild plant seeds) (A. E. Johnson 1976a: 7–15). Beyond such deterministic first attempts, more sophisticated understandings require an appreciation of the crucial role of social interaction in explaining human behavior. A recent study by Pugh (2001: 269–282), attempting to account for the aberrant location of the Kansas City Hopewell Aker site by reference to trade and periodic aggregation to maintain social cohesion, is an interesting example. Appreciation of the overarching significance of worldviews, based both on celestial and terrestrial principles, is another recently explored explanatory framework of great potential (P. J. O’Brien 1986: 939–946; Blakeslee and Hawley, chapter 10, this volume).

A trend important to mention is that with the vast growth in knowledge of the prehistoric and early historic record of Kansas, predictably, has come the need for
specialization. As a consequence, studies centering on geomorphology (Artz 1983; Mandel, chapter 3, this volume), paleoethnobotany (Adair 1988; Adair, chapter 15, this volume), zooarchaeology (M. E. Brown 1981; M. E. Hill 1996), lithic sources (Haury 1984; Stein, chapter 16, this volume), ceramic technology (Beck 2001: 5–20), and historic sites archaeology (M. King 1996a, 1996b, 1996c, 1997, 1999a, 1999b, 2004; Larson, Madson, and Mather 2004; Lees 1986; Schoen 1994) are all important aspects of our current interpretive framework.

As demonstrated by this book, advances in our understanding of the prehistory and early history of Kansas, since the last comprehensive overview in 1959 (Wedel), have been significant. We can only hope for similar progress in the future. Certainly an increasing threat to such progress is how rapidly important archaeological sites are destroyed as a result of economic development projects. Preservation laws, both state and federal, at best, only ensure consideration of cultural resources in development situations on land owned, leased, or permitted by government agencies. Most of the land in Kansas is in private hands, with protection of cultural resources entirely at the discretion of the landowner. Governmental ownership of the sites themselves seems the solution, and we can only hope that the Kansas State Historical Society continues and expands its efforts to purchase important sites, perhaps with the assistance of the Archaeological Conservancy.

As the resource base of archaeological sites diminishes, Kansas archaeological repositories that hold the collections and records of previous work become even more important. Many of the collections already at hand have only been superficially examined, and all deserve periodic attention as new interpretive devices appear. It is crucial, therefore, that these collections and associated documentation are conserved according to the most up-to-date procedures. In this regard, it is heartening to see the federal agencies that own many of the collections now devoting attention to long-term care.

Over the past 50 years, I have had the good fortune to be a part of the Kansas archaeological community in its effort to build and provide an understanding of the pre- and early history of the state. Looking back, it is possible to see significant change both in the procedures available for interpreting the past and in the concomitant interpretations themselves. Although our numbers always have been few and the task immense, I believe we can all be proud of the contributions we have made to understanding and preserving the cultural heritage of our state. With a solid base of knowledge to build on, the future can only be productive.

*Alfred E. Johnson*
ACKNOWLEDGMENTS

The initiative to produce this volume began at a meeting of the Professional Archaeologists of Kansas in 2000. At that meeting, nearly everyone in the room agreed that there was a need for a single reference to summarize the current understanding of the archaeology of Kansas. Soon after, those best equipped to address this need volunteered to produce chapters, and we thank those authors for their dedication and patience. W. Raymond Wood and an anonymous individual reviewed a draft of the volume and offered useful and constructive comments that the authors have worked to address. We appreciate the encouragement, latitude, and financial support provided by Jennie Chinn, Dick Pankratz, Christy Davis, and Terry Marmet of the Kansas State Historical Society. The authors provided the figures, but significant assistance was also provided by Christine Ewing of the Kansas State Historical Society, Kelli Bacon and René Botts of the Nebraska State Historical Society, Mary Adair and Jeannette Blackmar of the Kansas University Museum of Anthropology, and Tod Bevitt.

Much of the information in this volume is the result of state and federal agencies meeting their obligations under Section 106 of the National Historic Preservation Act (PL 89–665; USC 470 et seq.). Without naming each agency, we wish to thank them for the financial and logistical support they have provided for archaeological investigations and publications in Kansas. Researchers from the University of Kansas, Kansas State University, and Wichita State University have undertaken important field investigations and reported their findings at conferences and in a variety of publications. Another significant contributor to the archaeological record of Kansas is the Kansas Anthropological Association, whose members have recorded a large percentage of the state’s documented sites and have contributed countless hours of survey, excavation, and artifact processing. The Kansas City Archaeological Society and the Archaeological Association of South Central Kansas also have made substantial contributions to the understanding of the state’s prehistory.

Finally, we thank Fred Woodward and Susan McRory, as well as the entire staff of the University Press of Kansas, for making this publication possible.
1. Introduction

Robert J. Hoard and William E. Banks

Much is known about the archaeology of Kansas, and much has come to light in recent years. The existing summaries of Kansas archaeology (P. J. O’Brien 1984a; W. R. Wedel 1959) predate the more recent research. Recent overviews (Hofman 1996; Wood 1998) describe the archaeological record in Kansas but do so against a large regional backdrop.

Much of the work carried out in Kansas since the 1970s has been the result of compliance with federal law. Since the passage of the National Historic Preservation Act in 1966 (PL 89-665; 16 USC 470 et seq.), any project that receives federal permits or funding—roads, housing projects, water treatment plants, gas pipelines, cellular telephone towers—must have its impact on archaeological sites taken into account. As a result, there has been an enormous volume of data generated. These data often remain in technical reports accessible only to professional archaeologists, and little of this work has been synthesized for presentation to other professionals, much less the interested public. With this volume we intend to change that situation.

In addition to the archaeological work done because of federal laws, a significant amount of academically oriented research has been carried out since the 1970s in Kansas. In addition, avocational groups, working in conjunction with professional archaeologists, have made significant contributions. This research has been published in a variety of professional journals and books, but more recent work has not been synthesized in one publication. That is another major goal of this volume—to provide discussions of current archaeological research for all major time periods in one readily accessible resource. Therefore, each chapter draws together data on a topic, summarizing what we know and in many cases focusing on those questions that remain unanswered and on topics or issues that warrant further investigation.

This volume provides a summary of the material remains that have been found in Kansas and also sheds light on issues such as how people adapted to environmental shifts, as well as the impact of technological change or innovation on social behavior. Of course, every question we answer raises additional questions. By bringing this information together, we hope this book will help guide future research.

Another goal of this volume is to provide information that may help facilitate the preservation of the state’s archaeological record. There are nearly 12,000 known sites in Kansas, but these sites are being lost at an alarming rate due to both natural processes and human action. Unless we find out where sites are, understand the nature of these sites, and know what it takes to obtain information about the past from
them, we will not be able to save them. It is our hope that this book will help to foster a deeper appreciation of the record of human occupation in Kansas.

TIME DEPTH

Currently, the earliest evidence of human occupation in Kansas comes from the end of the Pleistocene period approximately 12,000 years ago. At this time, people lived alongside and hunted now-extinct Ice Age mammals such as mammoth and species of giant bison. Since the end of the Pleistocene, the climate and, accordingly, the vegetation and landscape of Kansas have changed, as did human groups living off available resources. We find a gradual diversification of technology through time until approximately A.D. 1, when evidence of pottery technology and horticulture came on the scene. This is a significant shift in lifestyle, with a gradually reduced dependence on wild food sources and a growing dependence on cultivated crops, requiring more sedentism, investment of labor, planning, and cooperation. After A.D. 1000, we find the remains of hamlets and villages with substantial houses and deep food storage pits, evidence that growing crops had made a fundamental change in people’s lives. The next major change began when the influence of people from Europe began to be felt in Kansas. It is likely that European trade goods and diseases preceded Coronado’s journey into the area in A.D. 1541. These influences had a significant impact on the native people living in the state, changes that influenced the creation of the Plains Indian culture that many are familiar with through the popular media.

Native tribal people were dealt a devastating blow, first by Europeans looking to trade and acquire raw materials and later by settlement of Americans of European and African descent. But native people have not vanished from the scene. Although most citizens of the Indian Nations present in Kansas at European contact were moved—forcibly—to Oklahoma, they live on in the twenty-first century. Their story has not ended but coexists with that of immigrants to the land we now call Kansas. Figure 1.1 gives a generalized sequence of events in Kansas.

ARCHAEOLOGICAL DATING

Knowing the age of an archaeological site is critical to understanding the broader archaeological record and thus understanding the developments of human actions over time. Many techniques have been used to estimate or quantitatively determine the age of archaeological sites and artifacts. The stratigraphic position of objects in the soil, assuming that deeper artifacts are older than those closer to the surface, gives archaeologists a relative measure of time. Changes in manufacturing techniques from different stratigraphic layers allow a researcher to extrapolate the relative ages of specific types of artifacts at sites that do not have stratigraphic control.
Methods, including dendrochronology, which uses tree ring sequences to determine the age of wood samples (Dean 1997), and archaeomagnetic dating, which uses the magnetic properties of soils that track dated shifts in the location of magnetic north (Sternberg 1997), are available but not widely used in Kansas. However, radiocarbon dating has seen wide use in Kansas since its earliest development and a brief discussion is warranted.

Willard F. Libby and others developed the radiocarbon dating method in 1949 at the University of Chicago (R. E. Taylor 1987: 147–170). Radiocarbon dating is based on a property of a carbon isotope, Carbon 14 or $^{14}$C. This radioactive isotope is taken in from the atmosphere by living organisms, which have amounts of $^{14}$C within them that is the same as that of the surrounding environment while they are alive. But when an organism dies, the intake of $^{14}$C ceases. The $^{14}$C decays at a known rate, known as a half-life, into stable isotopes. A half-life is the amount of time it takes for a given amount of a radioactive isotope to decay to half its mass. For $^{14}$C, the half-life is 5,568 years.

The radiocarbon age of an archaeological sample is determined by measuring how much $^{14}$C has decayed from the sample and, using the half-life, determining how many years it took for that amount of decay to take place. The radiocarbon age of a sample is a statistically derived number with an associated single standard deviation of statistical error. An example of a typical radiocarbon age would be expressed as 2,545±50 b.p. This means that the sample material died somewhere between 2,495 and 2,595 years before present (or b.p., with present arbitrarily set at a.d. 1950). Because a radiocarbon age is a statistical estimate, the most accurate assessment of a radiocarbon age is to consider the date range that includes the two-standard-deviation date range.

There have been fluctuations in the level of atmospheric $^{14}$C through time. By radiocarbon dating samples of known age such as individual tree rings, researchers have been able to document the fluctuation of $^{14}$C values in the atmosphere and have produced a method by which radiocarbon ages can be calibrated and assigned calendrical (b.c., or a.d.) dates. Radiocarbon ages that have been calibrated are expressed as calendrical dates, for example, cal a.d. 422 to 216 cal b.c., with cal referring to calibrated years (R. E. Taylor 1997: 73–76).

Early radiocarbon dates were determined by counting the beta particles emitted as a result of the radioactive decay of $^{14}$C from a sample measured over a known period of time. More recently, physicists have developed a technique to directly count $^{14}$C atoms. This technique is accelerator mass spectrometry, or AMS, described in R. E. Taylor (1997: 78–83). AMS dating allows the use of much smaller samples, weighing milligrams instead of samples weighing several grams that are needed for conventional radiocarbon dating. The AMS dating method has allowed small samples such as seeds to be accurately dated. The appendix of this volume lists all known, well-documented radiocarbon dates from archaeological sites in Kansas as well as some relevant dates from surrounding states. These dates have proven invaluable in
tracking changes in the archaeological record through time. For detailed information of the history, methods, assumptions, and sample requirements for radiocarbon dating, the reader should consult R. E. Taylor (1987, 1997).

While radiocarbon dating has become routine, there have been problems in the past. Adjustments in sample preparation and atmospheric $^{14}$C calculation were made to correct problems related to samples from bone and shell and from marine samples, respectively. Also, in the 1990s it became clear that the Gakushuin laboratory in Tokyo was producing inaccurate dates (Blakeslee 1994), and archaeologists
now know to be skeptical of these age assessments. Advances continue to increase the precision of $^{14}$C dating.

ARCHAEOLOGICAL EVIDENCE

Indian Nations have oral traditions that explain their past. It is the domain of history and ethnography to document and interpret those histories. Archaeology, on the other hand, focuses on the material remains of the past and employs scientific methods to understand the everyday activities not recorded in any history. While oral history often is used to guide understanding of how artifacts were used, archaeologists rely primarily on the material objects themselves to draw their conclusions.

Some basic principles of archaeology need to be explained for those not familiar with the discipline. Material remains are classified as artifacts or features, and their locations and associations with one another are used to define sites—the locations of prehistoric human activity. Generally, an artifact is any movable object that was created by people or subjected to direct or indirect human manipulation. This definition includes a broad range of items. Some of the more obvious examples are chipped-stone projectile points (arrowheads and spear points), stone tool-manufacturing debris, pottery vessels or fragments of them, and animal bone fragments resulting from the butchery and processing of hunted animals. A feature is defined as any unmoving manifestation of human activity. Examples would include fire pits (often referred to as hearths), house floors, trash dumps or middens, and burials.

Another important concept to keep in mind is that the archaeological record exists in the present. It is true that sites were created by events that occurred in the past, but natural processes (e.g., deposition, erosion) may have altered them, and later human activities may have altered materials deposited during an earlier occupation. Therefore, when investigating a site, one cannot assume that the site exists in the same state as it did when the human activity that created it ceased. If we are to reconstruct past events and understand what they tell us about human culture, we must determine which patterns or associations among artifacts are the result of natural processes and which associations are likely the result of human action (see Schiffer 1987 for a review). In other words, we must understand the relationships between the present archaeological record and the past dynamics that created it.

Binford (1981, 1983) describes the need to develop a body of theory that describes these relationships and terms it middle-range theory. Middle-range research (Binford 1983) is the expression of middle-range theory that allows archaeologists to give meaning to the archaeological record that we investigate. This can be done in a variety of ways. For example, an archaeologist might observe a modern hunter-gatherer group and describe the patterns of features and artifacts it left behind at a location or in a region and then compare those patterns to remains found at an archaeological site (e.g., Binford 1978a; Yellen 1977).
Moreover, archaeologists have used the work of researchers (e.g., Hunt 1978; Voorhies 1969) who have studied natural animal death sites (no human involvement) to understand the natural processes that affect carcasses prior to their burial and preservation. These types of studies are done so that archaeologists can compare their results with what is observed at a kill site, thereby allowing them to infer what natural processes and human behaviors created the patterns we see in the bonebed.

To find behavioral patterns in assemblages of artifacts, archaeologists create classification systems. These provide a means of conveying a substantial amount of information in a single word or phrase. For example, if someone mentions the Forty-niners, this term calls to mind a set of ideas about a group of people that traveled to California in the mid-1800s in search of gold. Likewise, when archaeologists talk about Paleoindians, the term describes the earliest known people in North America, their nomadic lifestyle, their well-made projectile point technology, and their hunting of large Ice Age mammals.

Several terms are used to describe sets of artifacts at archaeological sites. Terms such as phase, focus, aspect, tradition, variant, period, and complex are all found in the following chapters. These terms arise primarily from two different taxonomic systems, which demand a brief explanation. For in-depth analysis of the topic see Dunnell (1971, 1986), Lyman, O’Brien, and Dunnell (1997), and Willey and Phillips (1958). For information on the history and application of classification schemes in the Great Plains, see Krause (1998).

The first explicit attempt at archaeological classification was the Midwestern Taxonomic Method. Published in 1939 by W. C. McKern and widely used for about 20 years, it established six hierarchical units—component, focus, aspect, phase, pattern, and base—to describe morphological similarities between groups of artifacts. As a result of the establishment of this system, specific names for archaeological manifestations were established, published, and brought into common use: the Nebo Hill phase, the Great Bend aspect, the Glen Elder focus. The following is a brief summary of McKern’s units (1939: 307–310).

Focus: A complex of traits exhibiting “characteristic peculiarities” (distinctive traits, such as a particular pattern of designs on pottery), occurring in more than one site.

Component: The manifestation of a focus at a site. A site may contain one or more components.

Aspect: A grouping of foci, sharing more general traits. An aspect might include several foci.

Phase: A phase is more general than an aspect, and may include foci and aspects all of which have several similarities in traits such as pottery construction and decoration, patterns of house construction, and disposal of the dead.

Pattern: An aggregation of phases sharing even more general traits. For example, one pattern may include pottery-bearing phases, one of which includes crushed...
stone inclusions in the pottery and projectile points with stemmed bases, with another phase represented by pottery with crushed shell inclusions and projectile points with side notches.

Base: A term that encompasses broad sets of fundamental traits, such as the presence of pottery and evidence of horticulture in the sites of a particular region, as opposed to sites with basketry containers and no evidence of horticulture, but instead remains that indicate a strong reliance on fish as a food source.

The terms pattern and base quickly fell from use.

Those who felt that the Midwestern Taxonomic Method was not entirely satisfactory chose to use labels that included complex and culture (Krause 1998: 61), referring to assemblages of artifacts and to sites that shared similarities, respectively, but had not yet been placed in a taxonomic scheme. As time went on, archaeologists became dissatisfied with McKern’s system, primarily because it focused on the similarity or dissimilarity between artifacts but did not address two factors critical to archaeological studies: time and space.

Gordon R. Willey and Philip Phillips’s publication Method and Theory in American Archaeology added the dimensions of time and space to that of artifact form (1958: 17). They established three major taxonomic units:

Tradition: “a (primarily) temporal continuity represented by consistent configurations in single technologies or other systems of related form” (Willey and Phillips 1958: 37).

Phase: “An archaeological unit possessing traits sufficiently characteristic to distinguish it from all other units similarly conceived, whether of the same or other cultures or civilizations, spatially limited to the order of magnitude of a locality or region and chronologically limited to a relatively brief interval of time” (22).

Horizon: “A primarily spatial continuity represented by cultural traits and assemblages whose nature and mode of occurrence permit the assumption of a broad and rapid spread” (33).

Then, in 1971, Lehmer proposed the term variant to describe “a unique and reasonably uniform expression of a cultural tradition which has a greater order of magnitude than a phase, and which is distinguished from other variants of the same tradition by its geographic distribution, age, and/or cultural content” (1971: 32).

To further complicate matters, Central Plains archaeologists occasionally assign sites to one of three periods referred to as the Early, Middle, and Late Ceramic. These periods were first described by Nebraska archaeologist John Champe (1946: 85, 89–90) as a means of distinguishing ceramic-bearing sites of the Great Plains from their midwestern counterparts. These period designations apparently followed Champe-trained Thomas Witty, Jr., to Kansas when he took the position of Kansas State Archeologist in 1960. Use of Early, Middle, and Late Ceramic to describe sites begins to appear in Kansas site reports at about that time, and O’Brien uses it in her handbook on Kansas archaeology (P. J. O’Brien 1984a).
In the eastern United States, pottery-bearing sites are divided into general periods of Woodland and Mississippian. The Woodland period is further divided into the Early Woodland (ca. 1000–500 B.C.), Middle Woodland (ca. 500 B.C.–A.D. 500), and Late Woodland (ca. A.D. 500–1000), followed by the Mississippian period and its subperiods. In eastern Kansas, we find pottery closely similar to that found in Middle and Late Woodland sites of the eastern United States, though none that is similar to Early Woodland.

In Champe's ceramic periods, Great Plains sites that are called Middle Woodland in the Midwest are referred to as Early Ceramic sites, and further west, Late Woodland sites are referred to as Plains Woodland (Figure 1.2). These sites have traits similar to their eastern woodland counterparts—thick pottery vessels, corner-notched projectile points, and burial mounds—with differences that reflect the adaptation to a semiarid grassland environment (A. M. Johnson and A. E. Johnson 1998: 201). Sites on the Plains with similarities to eastern Late Woodland sites are referred to as Middle Ceramic or Plains Village sites. Later pottery-bearing sites, referred to as Late Ceramic, are less similar to coeval sites in the Midwest and instead are identified with historically known Kansas tribes such as the Kansa, the Pawnee, and the Wichita.

<table>
<thead>
<tr>
<th>Date</th>
<th>Midwest</th>
<th>Eastern Kansas</th>
<th>Central and Western Kansas</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.D. 1800</td>
<td>Historic</td>
<td>Historic</td>
<td>Late Ceramic</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Kansa, Osage)</td>
</tr>
<tr>
<td>A.D. 1500</td>
<td>Late Ceramic</td>
<td>Middle Ceramic</td>
<td>Middle Ceramic</td>
</tr>
<tr>
<td></td>
<td>(Great Bend Aspect, White Rock Oneota, Smoky Hill, Upper Republican, Osage Phase, Paunsa Bluff, Creek Complex, Steed-Kisker, Pomona)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.D. 1000</td>
<td>Mississippian</td>
<td>Early Ceramic</td>
<td>Plains Woodland</td>
</tr>
<tr>
<td></td>
<td>(Grasshopper Falls, Kansas City Hopewell, Greenwood, Schultz, &amp; Cuesta phases, Valley Variant)</td>
<td></td>
<td>(Kansa Phase)</td>
</tr>
<tr>
<td>A.D. 750</td>
<td>Late Woodland</td>
<td>No Pottery-Bearing Sites</td>
<td></td>
</tr>
<tr>
<td>A.D. 500</td>
<td>Middle Woodland</td>
<td>No Pottery-Bearing Sites</td>
<td></td>
</tr>
<tr>
<td>A.D. 1</td>
<td>Early Woodland</td>
<td>No Pottery-Bearing Sites</td>
<td></td>
</tr>
<tr>
<td>500 B.C.</td>
<td>No Pottery-Bearing Sites</td>
<td>No Pottery-Bearing Sites</td>
<td></td>
</tr>
<tr>
<td>2500 B.C.</td>
<td>Late Archaic</td>
<td>Late Archaic</td>
<td>Late Archaic</td>
</tr>
</tbody>
</table>

Figure 1.2. Comparison of taxonomic conventions by geographic region
Clearly archaeologists have adopted and adapted various systems in an attempt to create a classification system that is unique to the discipline. Although these systems make some intuitive sense through the use of examples and repeated use, they ultimately remain poorly defined. Lyman, O’Brien, and Dunnell (1997: 180–181) express this succinctly: “Unfortunately, Americanist archaeology still lacks a theory for specifying what aggregates of artifacts should consist of and how to specify temporal-spatial boundaries of the aggregates such that they are relevant to the analytical problems at hand.”

The following chapters discuss the major time periods and associated changes in human behavior that are reflected in the artifacts and features that people made. Also included are discussions of the changing environment through time and the use of critical resources such as plants for food (chapter 15) and stone for tools (chapter 16). Mandel’s chapter (chapter 3) on geomorphology and archeological site location demonstrates how sites are lost to natural processes.

Many other important topics are not addressed directly in this volume. For example, burial sites and mortuary practices receive only limited treatment. Petroglyphs and pictographs—designs engraved and painted, respectively, on stone exposures—are mentioned only in passing. Readers interested in this topic should refer to Kansas Rock Art by Brian O’Neill (1981). Finally there is a rich and diverse archaeological record that tells the story of European, Euro-American, African, and American Indian people who lived in Kansas during the Historic period. Although written history speaks to major social, political, and economic movements, it rarely addresses the everyday lives of the common person, much less those of minority populations (c.f. Beaudry, Cook, and Mrozowski 1996; Mullins 1997; Rotman and Nassaney 1994). However, the archaeological record of the Historic period is not discussed in this book. It is our hope that this volume serves to synthesize much of what we know about Kansas prehistory and to make that diverse knowledge base accessible to a large number of people with a variety of interests.